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GENERALLY

§ 403.1. Scope.

(a) *Application.*

(1) The Uniform Construction Code applies to the construction, alteration, repair, movement, equipment, removal, demolition, location, maintenance, occupancy or change of occupancy of every building or structure which occurs on or after April 9, 2004, and all existing structures that are not legally occupied.
(2) The Department will promulgate regulations adopting the new triennial BOCA National Building Code, or its successor building code as the Uniform Construction Code by December 31 of the year of the issuance under section 304(a)(1) of the act (35 P.S. § 7210.304(a)(1)). New buildings or renovations to existing buildings for which a design or construction contract was executed before the effective date of the regulatory amendment adopting the latest triennial versions of the construction codes and standards shall comply with the codes and standards in effect at the time that the design or construction contract was executed.

(b) *Exclusions and exemptions.*

The Uniform Construction Code does not apply to:
(1) New buildings or renovations to existing buildings for which an application for a permit was made to the Department or a municipality before April 9, 2004.
(2) New buildings or renovations to existing buildings on which a contract for design or construction was signed before April 9, 2004.
(3) The following structures if the structure has a building area less than 1000 square feet and is accessory to a detached one-family dwelling except as might be required by an ordinance adopted under section 503 of the act (35 P.S. § 7210.503):
(i) Carports.
(ii) Detached private garages.
(iii) Greenhouses.
(iv) Sheds.
(4) An agricultural building.
(5) Manufactured or industrialized housing shipped from the factory under section 901(a) of the act (35 P. S. § 7210.901(a)) as provided in § 403.25 (relating to manufactured and industrialized housing).
(6) Installation of tubing, piping, propane gas burning appliances, equipment or fixtures related to liquefied petroleum gas under the Propane and Liquefied Petroleum Gas Act (35 P. S. §§ 1329.1-1329.19).
(7) Construction of individual sewage disposal systems under 25 Pa. Code Chapter 73 (relating to onlot sewage treatment facilities).
(8) Alterations to residential buildings which do not make structural changes or changes to means of egress, except as required by ordinances in effect under sections 303(b)(1) or 503 of the act (35 P.S. §§ 7210.303(b)(1), 7210.503). Under this subsection, a structural change does not include a minor framing change needed to replace existing windows or doors.
(9) Repairs to residential buildings, except as required by ordinances in effect under sections 303(b)(1) and 503 of the act.
(10) Installation of aluminum or vinyl siding onto an existing residential or an existing commercial building, except as might be required by ordinances in effect under section 303(b)(1) (35 P. S. § § 7210.303(b)(1)) or section 503 of the act.
(11) A recreational cabin if all of the following are met:
(i) The cabin is equipped with at least one smoke detector, one fire extinguisher and one carbon monoxide detector in both the kitchen and sleeping quarters.
(ii) The owner of the cabin files one of the following with the municipality:
(A) A Department form UCC-13 attesting to the fact that the cabin meets the definition of a "recreational cabin” in 401.1 (relating to definitions).

(B) A valid proof of insurance for the recreational cabin, written and issued by an insurer authorized to do business in this Commonwealth, stating that the structure meets the definition of a "recreational cabin."

(c) *Continuity of recreational cabin exclusion.*

(1) Upon the transfer of ownership of a recreational cabin subject to the recreational cabin exclusion, written notice of all of the following must be provided in the sales agreement and the deed:

(i) The recreational cabin is exempt from the act.

(ii) The recreational cabin may not be in conformance with the Uniform Construction Code.

(iii) The recreational cabin is not subject to municipal regulation.

(2) Failure to comply with the notice requirement under paragraph (1) renders the sale void at the purchaser's option.

(d) *Prior permits and construction.*

(1) A permit issued under construction regulations before April 9, 2004, remains valid and the construction of the building or structure may be completed in accordance with the approved permit. The permit is invalid unless the construction commenced within 2 years of permit issuance or a time period specified by municipal ordinance, whichever is less. The permit holder shall acquire a new permit under section 104(c) of the act (35 P. S. § 7210.104(c)) if the permit was not actively prosecuted during this time period.

(2) Construction may be completed without a permit under section 104(c)(2) of the act when construction of a building or structure commenced before April 9, 2004, and a permit was not required at that time.

(3) The legal occupancy of a structure existing on April 9, 2004, may continue without change except where the Uniform Construction Code provides otherwise.

(e) The Uniform Construction Code applies to the construction of a residential building or structure governed by a homeowner's or community association under section 104(d)(2)(ii) of the act.

(f) The electrical provision, and lumber and wood provisions, not relating to pressure treatment, of the Uniform Construction Code do not apply to a dwelling unit or one-room school house utilized by a member or members of a recognized religious sect if a code administrator grants an exemption under section 901(b) of the act (35 P. S. § 7210.901(b)) as follows:

(1) The permit applicant shall file an application with the code administrator stating the manner in which an electrical provision and the lumber and wood provision unrelated to pressure treatment of the Uniform Construction Code conflicts with the applicant's religious beliefs. The application must also contain an affidavit by the applicant stating:

(i) The permit applicant is a member of a religious sect.

(ii) The religious sect has established tenets or teachings which conflict with an electrical provision and lumber and wood provisions unrelated to pressure treatment of the Uniform Construction Code.

(iii) The permit applicant adheres to the established tenets or teachings of the sect.

(A) For a dwelling unit, the dwelling will be used solely as a residence for the permit applicant and the applicant's household.

(B) For a one-room school house, the school house will be used solely by the members of the religious sect.

(2) The code administrator shall grant the application for the exemption if made in accordance with paragraph (1).

(3) If the permit applicant receives an exemption for building under section 901(b) of the act and the applicant subsequently sells or leases the building, the applicant shall bring the building into compliance with the provision of the Uniform Construction Code from which it was exempted prior to the sale or lease of the building unless the prospective subsequent owner or lessee files an affidavit in compliance with paragraph (1).

(g) Coal-fired boilers installed in residential buildings must be designed, constructed and tested in accordance with the requirements of Chapter 20, section M2001.1.1 of the "International Residential Code", except for the ASME stamping requirement.

§ 403.2. Other statutes or ordinances.

(a) Under section 104(d)(1) of the act (35 P. S. § 7210.104(d)(1)), the provisions of the Uniform Construction Code listed in § 403.21 (relating to Uniform Construction Code) preempt and rescind construction standards provided by a statute, local ordinance or regulation. The rescission or preemption does not apply to ordinances in effect on July 1, 1999, or reenactments of simultaneously repealed ordinances which were originally adopted before July 1, 1999, which contain provisions which meet or exceed the Uniform Construction Code under section 303(b)(1) of the act (35 P. S. § 7210.303(b)(1)).

(b) Under section 303(a)(2) of the act, a municipal building code ordinance provision in effect in or adopted by a city of the first class on or before January 1, 1998, shall remain in effect until December 31, 2003. The provisions of the ordinance which do not comply with the Uniform Construction Code on December 31, 2003, will be amended to provide for the minimum requirements of the Uniform Construction Code.

§ 403.3. Building code official delegation.

(a) The Department, a municipality or third-party agency shall employ or contract with a building code official to enforce the act.

(b) A building code official may delegate his duties to a construction code official or current code administrator.

STANDARDS

§ 403.21. Uniform Construction Code.

(a) The Department adopts and incorporates by reference the following codes as the Uniform Construction Code:
- (1) The provisions of Chapters 2-29 and 31-35 of the ‘‘International Building Code.’’
- (2) The ‘‘ICC Electrical Code.’’
- (3) The ‘‘International Mechanical Code.’’
- (4) The ‘‘International Fuel Gas Code.’’
- (5) The ‘‘International Plumbing Code.’’
  - (i) Except that a municipality within a county of the second class may not administer and enforce the “International Plumbing Code” adopted under this chapter.
  - (ii) A municipality within a county of the second class that has adopted a plumbing code and accompanying rules and regulations under the Local Health Administration Law (16 P.S. §§ 12001-12028), shall retain the authority to promulgate and enforce this plumbing code and to make any changes it deems necessary if the changes meet the Uniform Construction Code’s minimum requirements.
- (6) The ‘‘International Residential Code.’’
  - (i) The provisions of R313.1.1 requiring interconnected smoke alarms do not apply to one-family and two-family dwellings undergoing alterations, repairs or additions. Noninterconnected battery operated smoke alarms shall be installed in these dwellings.
  - (ii) The following specifications apply to residential stairway treads and risers.
    - (A) The maximum riser height is 8 1/4 inches. There may be no more than a 3/8 inch variation in riser height within a flight of stairs. The riser height is to be measured vertically between leading edges of the adjacent treads.
    - (B) The minimum tread depth is 9 inches measured from tread nosing to tread nosing.
    - (C) The greatest tread depth within any flight of stairs may not exceed the smallest by more than 3/8 inch.
    - (D) Treads may have a uniform projection of not more than 1½ inches when solid risers are used.
    - (E) Stairways may not be less than 3 feet in clear width and clear headroom of 6 feet 8 inches shall be maintained for the entire run of the stair.
    - (F) Handrails may project from each side of a stairway a distance of 3½ inches into the required width of the stair.
- (7) The ‘‘International Fire Code.’’ Section 804.1.1 of the International Fire Code (relating to natural cut trees) is not adopted under this chapter. A municipality that elects to adopt an ordinance for the administration and enforcement of the Uniform Construction Code may, by ordinance, restrict the placement of natural cut trees in an occupancy group. The ordinance restricting the placement of natural cut trees is not subject to section 503(b)-(k) of the act (35 P.S.§ 7210.503(b)-(k)) and § 403.102(i)-(k) (relating to municipalities electing to enforce the Uniform Construction Code).
- (8) The ‘‘International Energy Conservation Code.’’
- (9) The ‘‘International Existing Building Code.’’
- (10) The ‘‘International Wildland-Urban Interface Code.’’
- (11) Appendix E of the ‘‘International Building Code.’’
- (12) Appendix H of the ‘‘International Building Code.’’
- (13) Appendix G of the "International Residential Code.’’

(b) The codes and standards adopted under subsection (a) are part of the Uniform Construction Code to the prescribed extent of each code or standard. The provisions of the Uniform Construction Code apply if there is a difference between the Uniform Construction Code and the codes or standards adopted in subsection (a). This chapter’s administrative provisions govern under § 403.27(e) (relating to applicability and use of standards) if there is a conflict with the provisions of the codes relating to administration incorporated under subsection (a).

(c) Appendices to a code or standard listed in subsection (a) are not adopted in the Uniform Construction Code except for the provisions adopted in subsection (a)(9) and (12)-(14).

(d) A permit applicant may utilize one of the following prescriptive methods to demonstrate compliance with the energy conservation requirements of the Uniform Construction Code. The standards are those listed for the climatic zone of this Commonwealth where the building or structure is located:

(1) The prescriptive methods for detached residential buildings contained in the current version of the ''International Energy Conservation Code'' compliance guide containing State maps, prescriptive energy packages and related software published by the United States Department of Energy, Building Standards and Guidelines Program (REScheck™)or ''Pennsylvania's Alternative Residential Energy Provisions.''

(2) The prescriptive methods for all other buildings or structures contained in the current version of the ''International Energy Conservation Code'' compliance guide containing State maps, prescriptive packages and related software published by the United States Department of Energy, Building Standards and Guidelines Program (COMcheck™).

(e) Construction of individual sewage disposal systems is governed under 25 Pa. Code Chapter 73 (relating to onlot sewage treatment facilities).

(f) The repair, alteration, change of occupancy, addition and relocation of existing buildings must comply with Chapter 34 of the ''International Building Code'' or with the ''International Existing Building Code.''

§ 403.22. Health care facilities.

(a) A health care facility shall comply with all of the following under sections 104(d)(3) and 105(d)(1) of the act (35 P. S. §§ 7210.104(d)(3) and 7210.105(d)(1)):

(1) The Health Care Facilities Act.

(2) Regulations of the Department of Health in 28 Pa. Code Part IV (relating to health facilities).

(3) Building codes and regulations set forth in the applicable licensure laws and regulations under section 105(d) of the act (35 P. S. § 7210.105(d)).

(4) This chapter.

(b) Chapter 405 (relating to elevators and other lifting devices) always applies to health care facilities.

(c) In addition to the requirements of this chapter, a permit applicant for a health care facility shall obtain a license from the Department of Health under the Health Care Facilities Act and its regulations and comply with the Department of Health's license application procedures and its licensing regulations.

(d) A permit applicant for construction or alteration of a health care facility shall do all of the following:

(1) Submit construction or alteration plans to the Department of Health and obtain Department of Health approval before commencing construction or performing the alteration.

(2) Obtain approval from the Department of Health before occupancy of a new health care facility under 28 Pa. Code § 51.5 (relating to building occupancy).

(3) Obtain approval from the Department of Health before occupancy of an altered portion of an existing health care facility.

(e) A Department of Health inspector may inspect a health care facility site before, during and after construction to monitor compliance with Department of Health's health facility regulations.

(f) A building code official may not approve plans for a health care facility under this chapter unless the Department of Health has approved the plans.

(g) A building code official may not issue a certificate of occupancy for the health care facility under this chapter unless the Department of Health approved occupancy under 28 Pa. Code § 51.5.

(h) This section applies to construction or alteration of all health care facilities that the Department or a building code official review and approve under this chapter.

§ 403.23. Child day care facilities.

(a) A dwelling unit where child day care services are provided for less than 24 hours for 4 to 12 children is an R-3 occupancy if the dwelling unit is used primarily as a private residence and the provision of day care services is accessory to the principal use of the dwelling unit as a residence.

(b) A day care facility that is an R-3 occupancy under subsection (a) which provides day care services to 4-6 children shall comply with all of the following:

(1) Have a smoke detector on each floor and in the basement. The smoke detector may be powered by a nonreplacable, lithium battery listed by Underwriters Laboratories® that is warranted for 10 years and should sound an alarm when activated that is audible to persons in the unit's indoor child care space with all intervening doors closed. Where this type of detector is utilized, the unit owner of this detector shall keep the proof and date of purchase of the detector in the unit's fire drill logs.

(2) Have a portable fire extinguisher rated for Class B Fires in the kitchen and other cooking areas.

(3) Meet the exiting requirements for an R-3 occupancy and licensure under 55 Pa. Code Chapter 3290 (relating to family child day care homes).

(c) A day care facility that is an R-3 occupancy under subsection (a) which provides day care services to 7-12 children shall comply with all of the following:

(1) Have an interconnected smoke detector system.

(2) Have a fire extinguisher rated for Class B fires in the kitchen and other cooking areas.

(3) Meet the exiting requirements for an R-3 occupancy and licensure under 55 Pa. Code Chapter 3280 (relating to group child day care homes).

(d) All other child day care facilities shall be classified under Chapter 3 of the ''International Building Code.'' The facilities shall meet all Uniform Construction Code standards for these occupancy classifications.

§ 403.24. Historic buildings, structures and sites.

A building code official may exclude an entire historic building or structure or part of the building or structure from compliance with the Uniform Construction Code if it meets all of the following conditions under section 902 of the act (35 P. S. § 7210.902):

(1) The building or structure is an existing building or structure, or a new building or structure that is not intended for residential use on an historic site.

(2) The building or structure is identified and classified by Federal or local government authority or the Historical and Museum Commission as an historic building or site.

(3) A building code official judges the building or structure or parts of the building and structure as safe and the exclusion is in the interest of public health, safety or welfare. The building code official shall apply the Uniform Construction Code to parts of the building or structure where its exclusion is not within the interest of the public health, safety and welfare. A building code official may not waive the Uniform Construction Code's accessibility requirements under this section.

§ 403.25. Manufactured and industrialized housing.

(a) Manufactured housing is governed by the following under section 901(a) of the act (35 P. S. § 7210.901(a)):

(1) Except as provided in paragraph (2), the Uniform Construction Code does not apply to new manufactured housing assembled by and shipped from the manufacturer and which bears a label which certifies that it conforms to Federal construction and safety standards adopted under the Housing and Community Development Act of 1974 (42 U.S.C.A. §§ 5401-5426) and installation of new manufactured housing in conformity with the manufacturer's approved design applicable to the particular home.

(2) Construction activities or processes including utility connections and grading not addressed by the manufacturer's approved design must comply with the Uniform Construction Code.

(3) The Uniform Construction Code applies to the following:

(i) Alteration or repair to the unit that does not fall within 24 CFR 3280.1-3280.904 (relating to manufactured home construction and safety standards) and the manufacturer's installation instructions after assembly and shipment by the manufacturer.

(ii) Additions to the unit after delivery to the site.

(iii) Construction, alteration, repair or change of occupancy if the manufactured housing is resold to a subsequent purchaser.

(iv) Construction, alteration, repair or change of occupancy if the original purchaser relocates the manufactured housing.

(b) Industrialized housing is governed by the following under section 901(a) of the act:

(1) Except as provided in subsection (b)(2), the Uniform Construction Code does not apply to industrialized housing assembled by and shipped from the manufacturer.

(2) The Uniform Construction Code applies to all of the following:

(i) Site preparation.

(ii) Foundation construction.

(iii) Utilities connection.

(iv) Construction, alteration or repair to the industrialized housing unit after installation.
(v) Construction, alteration, repair or occupancy if industrialized housing is resold to a subsequent purchaser.
(vi) Construction, alteration, repair or occupancy if industrialized housing is relocated.

(c) The Department of Community and Economic Development may enforce and take action under the Industrialized Housing Act (35 P. S. §§ 1651.1-1651.12) and the Manufactured Housing Construction and Safety Standards Authorization Act (35 P. S. §§ 1656.1-1656.9).

§ 403.26. Swimming pools.

(a) A swimming pool, hot tub and spa which is accessory to a one-or two-family dwelling shall comply with all of the following:
(1) Chapter 41 of the ''International Residential Code.''
(2) Appendix G of the ''International Residential Code.''
(3) Section 2406.2, paragraph 9 of the International Building Code (glazing in walls and fences enclosing indoor and outdoor swimming pools, hot tubs and spas).
(4) Section 3109.4 of the ''International Building Code (residential swimming pool enclosures).

(b) A swimming pool that is not accessory to a one-or two-family dwelling must comply with this chapter, the ''American National Standards for Public Pools'' issued by ANSI and APSP (ANSI/NSPI-1 2003) and the Public Bathing Law (35 P. S. §§ 672-680d).

(c) A hot tub or spa that is not accessory to a one-or two-family dwelling must comply with this chapter and the ''American National Standard for Public Spas'' issued by ANSI and APSP (ANSI/NSPI-2 1999).

§ 403.27. Applicability and use of standards.

(a) Portions of this chapter designate and incorporate portions of the following ICC 2006 copyrighted works:
(1) The ''International Building Code.''
(2) The ''International Residential Code.''
(3) The ''ICC Electrical Code.''
(4) The ''International Plumbing Code.''
(5) The ''International Mechanical Code.''

(b) The ''International Residential Code'' and the ''International Existing Building Code'' apply to the construction, alteration, movement, enlargement, replacement, repair, equipment, use and occupancy, location, removal and demolition of detached one-and two-family dwellings and multiple single-family dwellings no more than 3 stories in height with a separate means of egress and their accessory structures.

(c) The ICC owns the copyrighted works in subsection (a). Reproduced with permission. All rights reserved.

(d) If different sections of this chapter specify different materials, method of construction or other requirements, the most restrictive material, method of construction or other requirement shall govern. The specific requirement of this part applies if there is a conflict between a general requirement and a specific requirement.

(e) This chapter governs if there is a conflict between this chapter and the provisions of the codes relating to administration incorporated under § 403.21(a) (relating to Uniform Construction Code).

(f) A provision of the ''International Mechanical Code'' does not apply if the provision conflicts with the Boiler and Unfired Pressure Vessel Law (35 P. S. §§ 1331.1-1331.9).

§ 403.28. Uncertified buildings.

(a) Under section 902(b)(6) of the act (35 P.S. § 7210.902(b)(6)), an uncertified building that was built before April 27, 1927, is deemed to be legally occupied until the owner proposes to renovate, add an addition, alter or change the occupancy of the building. The renovation, addition, alteration or change in occupancy must comply with the Uniform Construction Code.

(b) Under section 902(b) of the act (35 P.S. § 7210.902(b)), uncertified buildings within the Department's jurisdiction must meet the following requirements which do not apply to uncertified buildings under subsection (a):
(1) Maximum story height, minimum allowable construction type based on floor area, vertical opening and shaft protection requirements, means of egress requirements pertaining to minimum number of exits, maximum travel distances to exits, means of egress illumination, minimum egress widths and heights for exit doors, exit stairs, exit ramps and exit corridors requirements under the "International Building Code".

(2) Fire safety requirements in the “International Building Code” for fire alarms, fire extinguishers, heat and smoke detectors, automatic sprinkler systems and occupancy and incidental use separations. The following also applies:

(i) If construction began on a building before May 19, 1984, the installation of automatic sprinkler systems is not required.

(ii) If construction began on a building after May 19, 1984, automatic sprinklers are only required if the building is classified in use groups E (educational), H (high-hazard), I (institutional), or R-1 or R-2 (residential) or if the building has occupied floors more than 75 feet above lowest level of fire department access. Buildings in use groups R-1 and R-2 which do not have occupied floors more than 75 feet above lowest level of fire department access may, instead of installing automatic sprinkler systems, install hard-wired interconnected heat and smoke detectors in all rooms or spaces, whether they are occupied or unoccupied.

(iii) If construction of a building began after May 18, 1984, automatic sprinkler installation shall be completed by December 22, 2010, or any certificate of occupancy issued shall be invalid.

(3) Accessibility requirements are applicable as follows:

(i) If construction of an uncertified building began before September 1, 1965, accessibility requirements will not be imposed by the Department.

(ii) If construction of a building began after August 31, 1965 and before February 18, 1989, and if the building is a State-owned building, a restaurant or a retail commercial establishment, the building must have at least one accessible main entrance, an accessible route from the accessible entrance to any public spaces on the same level as the accessible entrance and, if toilet rooms are provided, the building must have at least one toilet room for each sex or a unisex toilet room complying with the accessibility requirements of the “International Building Code.”

(iii) If construction of the building began after February 17, 1989, all accessibility requirements of the “International Building Code” shall be met.

(4) Structural requirements will not be imposed unless the Department determines that the building or a portion of the building has defects that are defined as dangerous in section 202 of the “International Existing Building Code.” If the building is dangerous, the Department may impose only those requirements minimally necessary to remove danger to the building's occupants.

(c) All of the following apply to uncertified buildings where the Department does not have jurisdiction and which are not governed under subsection (a):

(1) A construction code official shall issue a certificate of occupancy to an uncertified building if it meets the requirements of the latest version of the “International Existing Building Code” or Chapter 34 of the “International Building Code.” The construction code official shall utilize the code for the municipality which best applies, in the official’s professional judgment.

(2) A construction code official may deny the issuance of a certificate of occupancy if the official deems that a building is unsafe because of inadequate means of egress, inadequate lighting and ventilation, fire hazards or other dangers to human life or to public welfare.

(3) A municipality governed under this subsection may utilize the standards of subsection (b) for the issuance of certificates of occupancy to uncertified buildings if the municipality adopts an ordinance.

PERMIT AND INSPECTION PROCESS FOR COMMERCIAL CONSTRUCTION

§ 403.41. Commercial construction.

This section and §§ 403.42-403.48 apply to the Department and municipalities electing to enforce the Uniform Construction Code under § 403.102 (relating to municipalities electing to enforce the Uniform Construction Code).

§ 403.42. Permit requirements and exemptions.

(a) An owner or authorized agent who intends to construct, enlarge, alter, repair, move, demolish or change the occupancy of a commercial building, structure and facility or to erect, install, enlarge, alter, repair, remove, convert or replace any electrical, gas, mechanical, or plumbing system regulated by the Uniform Construction Code shall first apply to the building code official and obtain the required permit under § 403.42a (relating to permit application).

(b) Emergency repairs or replacement of equipment may be made without first applying for a permit if a permit application is submitted to the building code official within 3 business days of the repair or replacement.

(c) A permit is not required for the exceptions listed in § 403.1(b) (relating to scope) and the following construction as long as the work does not violate a law or ordinance:

(1) Building construction for the following:

(i) Fences that are not over 6 feet high.

(ii) Oil derricks.

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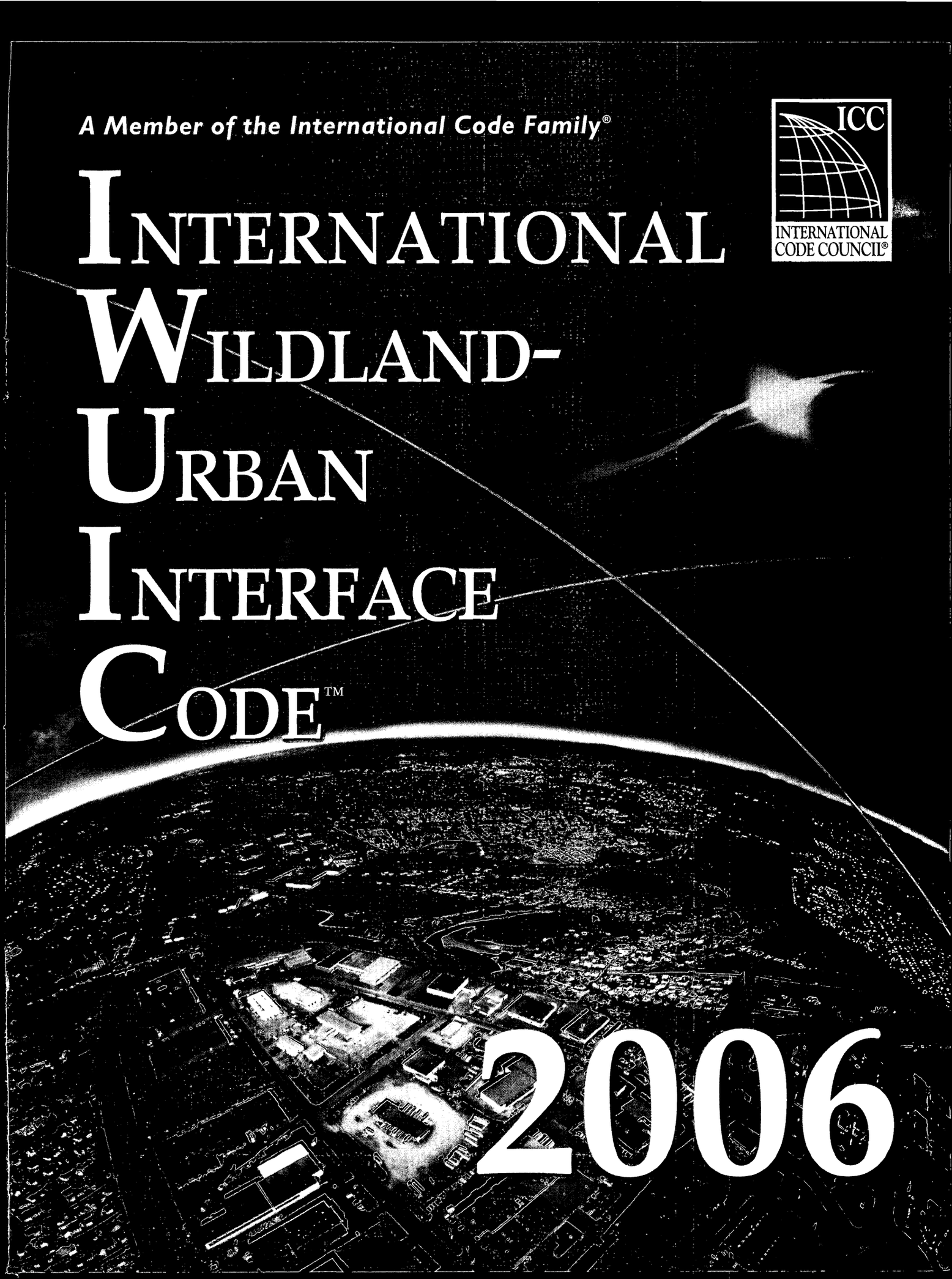
INTERNATIONAL WILDLAND-URBAN INTERFACE CODE™



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PREFACE

Introduction

Internationally, code officials recognize the need for a modern, up-to-date code addressing the mitigation of fire in the wildland-urban interface. The *International Wildland-Urban Interface Code*™, in this 2006 edition, is designed to bridge the gap between enforcement of the *International Building Code*® and *International Fire Code*® by mitigating the hazard of wildfires through model code regulations, which safeguard the public health and safety in all communities, large and small.

This comprehensive wildland-urban interface code establishes minimum regulations for land use and the built environment in designated wildland-urban interface areas using prescriptive and performance-related provisions. It is founded on data collected from tests and fire incidents, technical reports and mitigation strategies from around the world. This 2006 edition is fully compatible with all the *International Codes*® (I-Codes®) published by the International Code Council® (ICC®), including the *International Building Code*®, ICC *Electrical Code*®, *International Energy Conservation Code*®, *International Existing Building Code*®, *International Fire Code*®, *International Fuel Gas Code*®, *International Mechanical Code*®, ICC *Performance Code*®, *International Plumbing Code*®, *International Private Sewage Disposal Code*®, *International Property Maintenance Code*®, *International Residential Code*® and *International Zoning Code*®.

The *International Wildland-Urban Interface Code* provisions provide many benefits, including the model code development process, which offers an international forum for fire safety professionals to discuss performance and prescriptive code requirements. This forum provides an excellent arena to debate proposed revisions. This model code also encourages international consistency in the application of provisions.

Development

The first edition of the *International Wildland-Urban Interface Code* (2003) was the culmination of an effort initiated in 2001 by the ICC and the three statutory members of the International Code Council: Building Officials and Code Administrators International, Inc. (BOCA), International Conference of Building Officials (ICBO) and Southern Building Code Congress International (SBCCI). The intent was to draft a comprehensive set of regulations for mitigating the hazard to life and property from the intrusion of fire from wildland exposures and fire from adjacent structures, and preventing structure fires from spreading to wildland fuels. Technical content of the 2000 *Urban-Wildland Interface Code*, published by the International Fire Code Institute, was utilized as the basis for the development, followed by the publication of the 2001 Final Draft. This 2006 edition presents the code as originally issued, with changes approved through the ICC Code Development Process through 2005. A new edition such as this is promulgated every three years.

This code is founded on principles intended to mitigate the hazard from fires through the development of provisions that adequately protect public health, safety and welfare; provisions that do not unnecessarily increase construction costs; provisions that do not restrict the use of new materials, products or methods of construction; and provisions that do not give preferential treatment to particular types or classes of materials, products or methods of construction.

Adoption

The *International Wildland-Urban Interface Code* is available for adoption and use by jurisdictions internationally. Its use within a governmental jurisdiction is intended to be accomplished through adoption by reference in accordance with proceedings establishing the jurisdiction's laws. At the time of adoption, jurisdictions should insert the appropriate information in provisions requiring specific local information, such as the name of the adopting jurisdiction. These locations are shown in bracketed words in small capital letters in the code and in the sample ordinance. The sample adoption ordinance on page v addresses several key elements of a code adoption ordinance, including the information required for insertion into the code text.

Maintenance

The *International Wildland-Urban Interface Code* is kept up-to-date through the review of proposed changes submitted by code enforcing officials, industry representatives, design professionals and other interested parties. Proposed changes are carefully considered through an open code development process in which all interested and affected parties may participate.

The contents of this work are subject to change both through the code development cycles and the governmental body that enacts the code into law. For more information regarding the code development process, contact the Code and Standard Development Department of the International Code Council.

Although the development procedure of the *International Wildland-Urban Interface Code* assures the highest degree of care, ICC, its members and those participating in the development of this code do not accept any liability resulting from compliance or noncompliance with the provisions, because ICC and its founding members do not have the power or authority to police or enforce compliance with the contents of this code. Only the governmental body that enacts the code into law has such authority.

Marginal Markings

Solid vertical lines in the margins within the body of the code indicate a technical change from the requirements of the 2003 edition. Deletion indicators in the form of an arrow (➜) are provided in the margin where an entire section, paragraph, exception or table has been deleted or an item in a list of items or in a table has been deleted.

ORDINANCE

The *International Codes* are designed and promulgated to be adopted by reference by ordinance. Jurisdictions wishing to adopt the 2006 *International Wildland-Urban Interface Code* as an enforceable regulation for the mitigation of fire in the wildland-urban interface should ensure that certain factual information is included in the adopting ordinance at the time adoption is being considered by the appropriate governmental body. The following sample adoption ordinance addresses several key elements of a code adoption ordinance, including the information required for insertion into the code text.

SAMPLE ORDINANCE FOR ADOPTION OF THE *INTERNATIONAL WILDLAND-URBAN INTERFACE CODE* ORDINANCE NO._____

An ordinance of the **[JURISDICTION]** adopting the 2006 edition of the *International Wildland-Urban Interface Code*, regulating and governing the mitigation of hazard to life and property from the intrusion of fire from wildland exposures, fire from adjacent structures and prevention of structure fires from spreading to wildland fuels in the **[JURISDICTION]**; providing for the issuance of permits and collection of fees therefor; repealing Ordinance No. _____ of the **[JURISDICTION]** and all other ordinances and parts of the ordinances in conflict therewith.

The **[GOVERNING BODY]** of the **[JURISDICTION]** does ordain as follows:

Section 1. That a certain document, three (3) copies of which are on file in the office of the **[TITLE OF JURISDICTION'S KEEPER OF RECORDS]** of **[NAME OF JURISDICTION]**, being marked and designated as the *International Wildland-Urban Interface Code*, 2006 edition, including Appendix Chapters **[FILL IN THE APPENDIX CHAPTERS BEING ADOPTED]**, as published by the International Code Council, be and is hereby adopted as the *Wildland-Urban Interface Code* of the **[JURISDICTION]**, in the State of **[STATE NAME]** for regulating and governing the mitigation of hazard to life and property from the intrusion of fire from wildland exposures, fire from adjacent structures and prevention of structure fires from spreading to wildland fuels as herein provided; providing for the issuance of permits and collection of fees therefor; and each and all of the regulations, provisions, penalties, conditions and terms of said *Wildland-Urban Interface Code* on file in the office of the **[JURISDICTION]** are hereby referred to, adopted, and made a part hereof, as if fully set out in this ordinance, with the additions, insertions, deletions and changes, if any, prescribed in Section 2 of this ordinance.

Section 2. The following sections are hereby revised:

Section 101.1. Insert: **[NAME OF JURISDICTION]**

Section 3. That Ordinance No. _____ of **[JURISDICTION]** entitled **[FILL IN HERE THE COMPLETE TITLE OF THE ORDINANCE OR ORDINANCES IN EFFECT AT THE PRESENT TIME SO THAT THEY WILL BE REPEALED BY DEFINITE MENTION]** and all other ordinances or parts of ordinances in conflict herewith are hereby repealed.

Section 4. That if any section, subsection, sentence, clause or phrase of this ordinance is, for any reason, held to be unconstitutional, such decision shall not affect the validity of the remaining portions of this ordinance. The **[GOVERNING BODY]** hereby declares that it would have passed this ordinance, and each section, subsection, clause or phrase thereof, irrespective of the fact that any one or more sections, subsections, sentences, clauses and phrases be declared unconstitutional.

Section 5. That nothing in this ordinance or in the *Wildland-Urban Interface Code* hereby adopted shall be construed to affect any suit or proceeding impending in any court, or any rights acquired, or liability incurred, or any cause or causes of action acquired or existing, under any act or ordinance hereby repealed as cited in Section 3 of this ordinance; nor shall any just or legal right or remedy of any character be lost, impaired or affected by this ordinance.

Section 6. That the **[JURISDICTION'S KEEPER OF RECORDS]** is hereby ordered and directed to cause this ordinance to be published. (An additional provision may be required to direct the number of times the ordinance is to be published and to specify that it is to be in a newspaper in general circulation. Posting may also be required.)

Section 7. That this ordinance and the rules, regulations, provisions, requirements, orders and matters established and adopted hereby shall take effect and be in full force and effect **[TIME PERIOD]** from and after the date of its final passage and adoption.

Section 8. Specific boundaries of natural or man-made features of wildland-urban interface areas shall be as shown on the wildland area interface map. The legal description of such areas is as described as follows: **[INSERT LEGAL DESCRIPTION]**

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CHAPTER 1
ADMINISTRATION

SECTION 101
GENERAL

101.1 Title. These regulations shall be known as the *Wildland-Urban Interface Code* of [NAME OF JURISDICTION], hereinafter referred to as "this code."

101.2 Scope. The provisions of this code shall apply to the construction, alteration, movement, repair, maintenance and use of any building, structure or premises within the wildland-urban interface areas in this jurisdiction.

Buildings or conditions in existence at the time of the adoption of this code are allowed to have their use or occupancy continued, if such condition, use or occupancy was legal at the time of the adoption of this code, provided such continued use does not constitute a distinct danger to life or property.

Buildings or structures moved into or within the jurisdiction shall comply with the provisions of this code for new buildings or structures.

101.3 Objective. The objective of this code is to establish minimum regulations consistent with nationally recognized good practice for the safeguarding of life and property. Regulations in this code are intended to mitigate the risk to life and structures from intrusion of fire from wildland fire exposures and fire exposures from adjacent structures and to mitigate structure fires from spreading to wildland fuels. The extent of this regulation is intended to be tiered commensurate with the relative level of hazard present.

The unrestricted use of property in wildland-urban interface areas is a potential threat to life and property from fire and resulting erosion. Safeguards to prevent the occurrence of fires and to provide adequate fire-protection facilities to control the spread of fire in wildland-urban interface areas shall be in accordance with this code.

This code shall supplement the jurisdiction's building and fire codes, if such codes have been adopted, to provide for special regulations to mitigate the fire- and life-safety hazards of the wildland-urban interface areas.

101.4 Retroactivity. The provisions of the code shall apply to conditions arising after the adoption thereof, conditions not legally in existence at the adoption of this code, to conditions which, in the opinion of the code official, constitute a distinct hazard to life or property.

Exception: Provisions of this code that specifically apply to existing conditions are retroactive. See Sections 402.3, 601.1 and Appendix A.

101.5 Additions or alterations. Additions or alterations may be made to any building or structure without requiring the existing building or structure to comply with all of the requirements of this code, provided the addition or alteration conforms to that required for a new building or structure.

Exception: Provisions of this code that specifically apply to existing conditions are retroactive. See Sections 402.3, 601.1 and Appendix A.

Additions or alterations shall not be made to an existing building or structure that will cause the existing building or structure to be in violation of any of the provisions of this code nor shall such additions or alterations cause the existing building or structure to become unsafe. An unsafe condition shall be deemed to have been created if an addition or alteration will cause the existing building or structure to become structurally unsafe or overloaded; will not provide adequate access in compliance with the provisions of this code or will obstruct existing exits or access; will create a fire hazard; will reduce required fire resistance or will otherwise create conditions dangerous to human life.

101.6 Maintenance. All buildings, structures, landscape materials, vegetation, defensible space or other devices or safeguards required by this code shall be maintained in conformance to the code edition under which installed. The owner or the owner's designated agent shall be responsible for the maintenance of buildings, structures, landscape materials and vegetation.

SECTION 102
AUTHORITY OF THE CODE OFFICIAL

102.1 Powers and duties of the code official. The code official is hereby authorized to administer and enforce this code, or designated sections thereof, and all ordinances of the jurisdiction pertaining to designated wildland-urban interface areas. For such purposes, the code official shall have the powers of a law enforcement officer.

102.2 Interpretations, rules and regulations. The code official shall have the power to render interpretations of this code and to adopt and enforce rules and supplemental regulations to clarify the application of its provisions. Such interpretations, rules and regulations shall be in conformance to the intent and purpose of this code.

A copy of such rules and regulations shall be filed with the clerk of the jurisdiction and shall be in effect immediately thereafter. Additional copies shall be available for distribution to the public.

102.3 Liability of the code official. The code official charged with the enforcement of this code, acting in good faith and without malice in the discharge of the duties required by this code or other pertinent law or ordinance, shall not thereby be rendered personally liable for damages that may accrue to persons or property as a result of an act or by reason of an act or omission in the discharge of such duties. A suit brought against the code official or employee because of such act or omission performed by the code official or employee in the enforcement of any provision of such codes or other pertinent laws or ordinances implemented through the enforcement of this code or

enforced by the code enforcement agency shall be defended by this jurisdiction until final termination of such proceedings, and any judgment resulting therefrom shall be assumed by this jurisdiction. The code enforcement agency or its parent jurisdiction shall not be held as assuming any liability by reason of the inspections authorized by this code or any permits or certificates issued under this code.

102.4 Other agencies. When requested to do so by the code official, other officials of this jurisdiction shall assist and cooperate with the code official in the discharge of the duties required by this code.

SECTION 103
COMPLIANCE ALTERNATIVES

103.1 Practical difficulties. When there are practical difficulties involved in carrying out the provisions of this code, the code official is authorized to grant modifications for individual cases on application in writing by the owner or a duly authorized representative. The code official shall first find that a special individual reason makes enforcement of the strict letter of this code impractical, the modification is in conformance to the intent and purpose of this code, and the modification does not lessen any fire protection requirements or any degree of structural integrity. The details of any action granting modifications shall be recorded and entered into the files of the code enforcement agency.

If the code official determines that difficult terrain, danger of erosion or other unusual circumstances make strict compliance with the vegetation control provisions of the code detrimental to safety or impractical, enforcement thereof may be suspended, provided that reasonable alternative measures are taken.

103.2 Technical assistance. To determine the acceptability of technologies, processes, products, facilities, materials and uses attending the design, operation or use of a building or premises subject to the inspection of the code official, the code official is authorized to require the owner or the person in possession or control of the building or premises to provide, without charge to the jurisdiction, a technical opinion and report. The opinion and report shall be prepared by a qualified engineer, specialist, laboratory or fire safety specialty organization acceptable to the code official and the owner and shall analyze the fire safety of the design, operation or use of the building or premises, the facilities and appurtenances situated thereon and fuel management for purposes of establishing fire hazard severity to recommend necessary changes.

103.3 Alternative materials or methods. The code official, in concurrence with approval from the building official and fire chief, is authorized to approve alternative materials or methods, provided that the code official finds that the proposed design, use or operation satisfactorily complies with the intent of this code and that the alternative is, for the purpose intended, at least equivalent to the level of quality, strength, effectiveness, fire resistance, durability and safety prescribed by this code. Approvals under the authority herein contained shall be subject to the approval of the building official whenever the alternate material or method involves matters regulated by the *International Building Code*.

The code official shall require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding its use. The details of any action granting approval of an alternate shall be recorded and entered in the files of the code enforcement agency.

SECTION 104
APPEALS

104.1 General. To determine the suitability of alternative materials and methods and to provide for reasonable interpretations of the provisions of this code, there shall be and hereby is created a board of appeals consisting of five members who are qualified by experience and training to pass judgment on pertinent matters. The code official, building official and fire chief shall be ex officio members, and the code official shall act as secretary of the board. The board of appeals shall be appointed by the legislative body and shall hold office at their discretion. The board shall adopt reasonable rules and regulations for conducting its investigations and shall render decisions and findings in writing to the code official, with a duplicate copy to the applicant.

104.2 Limitations of authority. The board of appeals shall not have authority relative to interpretation of the administrative provisions of this code and shall not have authority to waive requirements of this code.

SECTION 105
PERMITS

105.1 General. When not otherwise provided in the requirements of the building or fire code, permits are required in accordance with Section 105.

105.2 Permits required. Unless otherwise exempted, no building or structure regulated by this code shall be erected, constructed, altered, repaired, moved, removed, converted, demolished, or changed in use or occupancy unless a separate permit for each building or structure has first been obtained from the code official.

For buildings or structures erected for temporary uses, see Appendix A, Section A108.3, of this code.

When required by the code official, a permit shall be obtained for the following activities, operations, practices or functions within an wildland-urban interface area:

1. Automobile wrecking yard.
2. Candles and open flames in assembly areas.
3. Explosives or blasting agents.
4. Fireworks.
5. Flammable or combustible liquids.
6. Hazardous materials.
7. Liquefied petroleum gases.
8. Lumberyards.
9. Motor vehicle fuel-dispensing stations.
10. Open burning.

11. Pyrotechnical special effects material.
12. Tents, canopies and temporary membrane structures.
13. Tire storage.
14. Welding and cutting operations.

105.3 Work exempt from permit. Unless otherwise provided in the requirements of the *International Building Code* or *International Fire Code,* a permit shall not be required for the following:

1. One-story detached accessory buildings used as tool and storage sheds, playhouses and similar uses, provided the floor area does not exceed 120 square feet (11.15 m^2) and the structure is located more than 50 feet (15 240 mm) from the nearest adjacent structure.
2. Fences not over 6 feet (1829 mm) high.

Exemption from the permit requirements of this code shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this code or any other laws or ordinances of this jurisdiction.

The code official is authorized to stipulate conditions for permits. Permits shall not be issued when public safety would be at risk, as determined by the code official.

105.4 Permit application. To obtain a permit, the applicant shall first file an application therefor in writing on a form furnished by the code enforcement agency for that purpose. Every such application shall:

1. Identify and describe the work, activity, operation, practice or function to be covered by the permit for which application is made.
2. Describe the land on which the proposed work, activity, operation, practice or function is to be done by legal description, street address or similar description that will readily identify and definitely locate the proposed building, work, activity, operation, practice or function.
3. Indicate the use or occupancy for which the proposed work, activity, operation, practice or function is intended.
4. Be accompanied by plans, diagrams, computation and specifications and other data as required in Section 106 of this code.
5. State the valuation of any new building or structure or any addition, remodeling or alteration to an existing building.
6. Be signed by the applicant or the applicant's authorized agent.
7. Give such other data and information as may be required by the code official.

105.5 Permit approval. Before a permit is issued, the code official, or an authorized representative, shall review and approve all permitted uses, occupancies or structures. Where laws or regulations are enforceable by other agencies or departments, a joint approval shall be obtained from all agencies or departments concerned.

105.6 Permit issuance. The application, plans, specifications and other data filed by an applicant for a permit shall be reviewed by the code official. If the code official finds that the work described in an application for a permit and the plan, specifications and other data filed therewith conform to the requirements of this code, the code official is allowed to issue a permit to the applicant.

When the code official issues the permit, the code official shall endorse in writing or stamp the plans and specifications APPROVED. Such approved plans and specifications shall not be changed, modified or altered without authorization from the code official, and all work regulated by this code shall be done in accordance with the approved plans.

105.7 Validity of permit. The issuance or granting of a permit or approval of plans, specifications and computations shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this code or of any other ordinance of the jurisdiction. Permits presuming to give authority to violate or conceal the provisions of this code or other ordinances of the jurisdiction shall not be valid.

105.8 Expiration. Every permit issued by the code official under the provisions of this code shall expire by limitation and become null and void if the building, use or work authorized by such permit is not commenced within 180 days from the date of such permit, or if the building, use or work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of 180 days.

Any permittee holding an unexpired permit may apply for an extension of the time within which work may commence under that permit when the permittee is unable to commence work within the time required by this section for good and satisfactory reasons. The code official may extend the time for action by the permittee for a period not exceeding 180 days on written request by the permittee showing that circumstances beyond the control of the permittee have prevented action from being taken. No permit shall be extended more than once.

105.9 Retention of permits. Permits shall at all times be kept on the premises designated therein and shall at all times be subject to inspection by the code official or other authorized representative.

105.10 Revocation of permits. Permits issued under this code may be suspended or revoked when it is determined by the code official that:

1. It is used by a person other than the person to whom the permit was issued.
2. It is used for a location other than that for which the permit was issued.
3. Any of the conditions or limitations set forth in the permit have been violated.
4. The permittee fails, refuses or neglects to comply with any order or notice duly served on him under the provisions of this code within the time provided therein.
5. There has been any false statement or misrepresentation as to material fact in the application or plans on which the permit or application was made.
6. When the permit is issued in error or in violation of any other ordinance, regulations or provisions of this code.

The code official is allowed to, in writing, suspend or revoke a permit issued under the provisions of this code whenever the permit is issued in error or on the basis of incorrect information supplied, or in violation of any ordinance or regulation or any of the provisions of this code.

SECTION 106
PLANS AND SPECIFICATIONS

106.1 General. Plans, engineering calculations, diagrams and other data shall be submitted in at least two sets with each application for a permit. When such plans are not prepared by an architect or engineer, the code official may require the applicant submitting such plans or other data to demonstrate that state law does not require that the plans be prepared by a licensed architect or engineer. The code official may require plans, computations and specifications to be prepared and designed by an architect or engineer licensed by the state to practice as such even if not required by state law.

Exception: Submission of plans, calculations, construction inspection requirements and other data, if it is found that the nature of the work applied for is such that reviewing of plans is not necessary to obtain compliance with this code.

106.2 Information on plans and specifications. Plans and specifications shall be drawn to scale upon substantial paper or cloth and shall be of sufficient clarity to indicate the location, nature and extent of the work proposed, and show in detail that it will conform to the provisions of this code and all relevant laws, ordinances, rules and regulations.

106.3 Site plan. In addition to the requirements for plans in the *International Building Code*, site plans shall include topography, width and percent of grade of access roads, landscape and vegetation details, locations of structures or building envelopes, existing or proposed overhead utilities, occupancy classification of buildings, types of ignition-resistant construction of buildings, structures and their appendages, roof classification of buildings, and site water supply systems.

106.4 Vegetation management plans. When utilized by the permit applicant pursuant to Section 502, vegetation management plans shall be prepared and shall be submitted to the code official for review and approval as part of the plans required for a permit. See Appendix B.

106.5 Fire protection plan. When required by the code official pursuant to Section 405, a fire protection plan shall be prepared and shall be submitted to the code official for review and approved as a part of the plans required for a permit.

106.6 Other data and substantiation. When required by the code official, the plans and specifications shall include classification of fuel loading, fuel model light, medium or heavy, and substantiating data to verify classification of fire-resistive vegetation.

106.7 Vicinity plan. In addition to the requirements for site plans, plans shall include details regarding the vicinity within 300 feet (91 440 mm) of property lines, including other structures, slope, vegetation, fuel breaks, water supply systems and access roads.

106.8 Retention of plans. One set of approved plans, specifications and computations shall be retained by the code official for a period of not less than 90 days from date of completion of the work covered therein; and one set of approved plans and specifications shall be returned to the applicant, and said set shall be kept on the site of the building, use or work at all times during which the work authorized thereby is in progress.

SECTION 107
INSPECTION AND ENFORCEMENT

107.1 Inspection.

107.1.1 General. All construction or work for which a permit is required by this code shall be subject to inspection by the code official and all such construction or work shall remain accessible and exposed for inspection purposes until approved by the code official.

It shall be the duty of the permit applicant to cause the work to remain accessible and exposed for inspection purposes. Neither the code official nor the jurisdiction shall be liable for expense entailed in the removal or replacement of any material required to allow inspection.

Approval as a result of an inspection shall not be construed to be an approval of a violation of the provisions of this code or of other ordinances of the jurisdiction. Inspections presuming to give authority to violate or cancel the provisions of this code or of other ordinances of the jurisdiction shall not be valid.

A survey of the lot may be required by the code official to verify that the mitigation features are provided and the building or structure is located in accordance with the approved plans.

107.1.2 Authority to inspect. The code official shall inspect, as often as necessary, buildings and premises, including such other hazards or appliances designated by the code official for the purpose of ascertaining and causing to be corrected any conditions that could reasonably be expected to cause fire or contribute to its spread, or any violation of the purpose of this code and of any other law or standard affecting fire safety.

107.1.3 Reinspections. To determine compliance with this code, the code official may cause a structure to be reinspected. A fee may be assessed for each inspection or reinspection when such portion of work for which inspection is called is not complete or when corrections called for are not made.

Reinspection fees may be assessed when the approved plans are not readily available to the inspector, for failure to provide access on the date for which inspection is requested or for deviating from plans requiring the approval of the code official.

To obtain a reinspection, the applicant shall pay the reinspection fee as set forth in the fee schedule adopted by the jurisdiction. When reinspection fees have been assessed, no additional inspection of the work will be performed until the required fees have been paid.

107.2 Enforcement.

107.2.1 Authorization to issue corrective orders and notices. When the code official finds any building or premises that are in violation of this code, the code official is authorized to issue corrective orders and notices.

107.2.2 Service of orders and notices. Orders and notices authorized or required by this code shall be given or served on the owner, operator, occupant or other person responsible for the condition or violation either by verbal notification, personal service, or delivering the same to, and leaving it with, a person of suitable age and discretion on the premises; or, if no such person is found on the premises, by affixing a copy thereof in a conspicuous place on the door to the entrance of said premises and by mailing a copy thereof to such person by registered or certified mail to the person's last known address.

Orders or notices that are given verbally shall be confirmed by service in writing as herein provided.

107.3 Right of entry. Whenever necessary to make an inspection to enforce any of the provisions of this code, or whenever the code official has reasonable cause to believe that there exists in any building or on any premises any condition that makes such building or premises unsafe, the code official is authorized to enter such building or premises at all reasonable times to inspect the same or to perform any duty authorized by this code, provided that if such building or premises is occupied, the code official shall first present proper credentials and request entry; and if such building or premises is unoccupied, the code official shall first make a reasonable effort to locate the owner or other persons having charge or control of the building or premises and request entry.

If such entry is refused, the code official shall have recourse to every remedy provided by law to secure entry. Owners, occupants or any other persons having charge, care or control of any building or premises, shall, after proper request is made as herein provided, promptly permit entry therein by the code official for the purpose of inspection and examination pursuant to this code.

107.4 Compliance with orders and notices.

107.4.1 General compliance. Orders and notices issued or served as provided by this code shall be complied with by the owner, operator, occupant or other person responsible for the condition or violation to which the corrective order or notice pertains.

If the building or premises is not occupied, such corrective orders or notices shall be complied with by the owner.

107.4.2 Compliance with tags. A building or premises shall not be used when in violation of this code as noted on a tag affixed in accordance with Section 107.4.1.

107.4.3 Removal and destruction of signs and tags. A sign or tag posted or affixed by the code official shall not be mutilated, destroyed or removed without authorization by the code official.

107.4.4 Citations. Persons operating or maintaining an occupancy, premises or vehicle subject to this code who allow a hazard to exist or fail to take immediate action to abate a hazard on such occupancy, premises or vehicle when ordered or notified to do so by the code official shall be guilty of a misdemeanor.

107.4.5 Unsafe conditions. Buildings, structures or premises that constitute a fire hazard or are otherwise dangerous to human life, or which in relation to existing use constitute a hazard to safety or health or public welfare, by reason of inadequate maintenance, dilapidation, obsolescence, fire hazard, disaster damage or abandonment as specified in this code or any other ordinance, are unsafe conditions. Unsafe buildings or structures shall not be used. Unsafe buildings are hereby declared to be public nuisances and shall be abated by repair, rehabilitation, demolition or removal, pursuant to applicable state and local laws and codes.

SECTION 108
CERTIFICATE OF COMPLETION

108.1 General. No building, structure or premises shall be used or occupied, and no change in the existing occupancy classification of a building, structure, premise or portion thereof shall be made until the code official has issued a certificate of completion therefor as provided herein. The certificate of occupancy shall not be issued until the certificate of completion indicating that the project is in compliance with this code has been issued by the code official.

108.2 Certificate of occupancy. Issuance of a certificate of occupancy shall not be construed as an approval of a violation of the provisions of this code or of other pertinent laws and ordinances of the jurisdiction. Certificates presuming to give authority to violate or cancel the provisions of this code or other laws or ordinances of the jurisdiction shall not be valid.

CHAPTER 2
DEFINITIONS

SECTION 201
GENERAL

201.1 Scope. Unless otherwise expressly stated, the following words and terms shall, for the purposes of this code, have the meanings shown in this chapter.

201.2 Interchangeability. Words stated in the present tense include the future; words stated in the masculine gender include the feminine and neuter, and the singular number includes the plural and the plural the singular.

201.3 Terms defined in other codes. Where terms are not defined in this code and are defined in other *International Codes*, such terms shall have the meanings ascribed to them as in those codes.

201.4 Terms not defined. Where terms are not defined through the methods authorized by this section, such terms shall have their ordinarily accepted meanings such as the context implies.

SECTION 202
DEFINITIONS

ACCESSORY STRUCTURE. A building or structure used to shelter or support any material, equipment, chattel or occupancy other than a habitable building.

APPROVED. Approval by the code official as the result of review, investigation or tests conducted by the code official or by reason of accepted principles or tests by national authorities, or technical or scientific organizations.

BUILDING. Any structure used or intended for supporting or sheltering any use or occupancy.

BUILDING OFFICIAL. The officer or other designated authority charged with the administration and enforcement of the *International Building Code*, or the building official's duly authorized representative.

CERTIFICATE OF COMPLETION. Written documentation that the project or work for which a permit was issued has been completed in conformance with requirements of this code.

CODE OFFICIAL. The official designated by the jurisdiction to interpret and enforce this code, or the code official's authorized representative.

CRITICAL FIRE WEATHER. A set of weather conditions (usually a combination of low relative humidity and wind) whose effects on fire behavior make control difficult and threaten fire fighter safety.

DEFENSIBLE SPACE. An area either natural or man-made, where material capable of allowing a fire to spread unchecked has been treated, cleared or modified to slow the rate and intensity of an advancing wildfire and to create an area for fire suppression operations to occur.

DRIVEWAY. A vehicular ingress and egress route that serves no more than two buildings or structures, not including accessory structures, or more than five dwelling units.

FIRE AREA. The floor area, in square feet (square meters), used to determine the adequate water supply.

FIRE CHIEF. The chief officer or the chief officer's authorized representative of the fire department serving the jurisdiction.

FIRE PROTECTION PLAN. A document prepared for a specific project or development proposed for the wildland-urban interface area. It describes ways to minimize and mitigate the fire problems created by the project or development, with the purpose of reducing impact on the community's fire protection delivery system.

FIRE WEATHER. Weather conditions favorable to the ignition and rapid spread of fire. In wildfires, this generally includes high temperatures combined with strong winds and low humidity. See "Critical fire weather."

FIRE-RESISTANCE-RATED CONSTRUCTION. The use of materials and systems in the design and construction of a building or structure to safeguard against the spread of fire within a building or structure and the spread of fire to or from buildings or structures to the wildland-urban interface area.

FLAME SPREAD RATING. As used herein refers to rating obtained according to tests conducted as specified by a nationally recognized standard.

FUEL BREAK. An area, strategically located for fighting anticipated fires, where the native vegetation has been permanently modified or replaced so that fires burning into it can be more easily controlled. Fuel breaks divide fire-prone areas into smaller areas for easier fire control and to provide access for fire fighting.

FUEL, HEAVY. Vegetation consisting of round wood 3 to 8 inches (76 to 203 mm) in diameter. See Fuel Models G, I, J, K and U described in Appendix D.

FUEL, LIGHT. Vegetation consisting of herbaceous plants and round wood less than $^1/_4$ inch (6.4 mm) in diameter. See Fuel Models A, C, E, L, N, P, R and S described in Appendix D.

FUEL, MEDIUM. Vegetation consisting of round wood $^1/_4$ to 3 inches (6.4 mm to 76 mm) in diameter. See Fuel Models B, D, F, H, O, Q and T described in Appendix D.

FUEL MODIFICATION. A method of modifying fuel load by reducing the amount of nonfire-resistive vegetation or altering the type of vegetation to reduce the fuel load.

FUEL MOSAIC. A fuel modification system that provides for the creation of islands and irregular boundaries to reduce the visual and ecological impact of fuel modification.

FUEL-LOADING. The oven-dry weight of fuels in a given area, usually expressed in pounds per acre (lb/a) (kg/ha). Fuel

loading may be referenced to fuel size or timelag categories, and may include surface fuels or total fuels.

GREEN BELT. A fuel break designated for a use other than fire protection.

HAZARDOUS MATERIALS. As defined in the *International Fire Code*.

HEAVY TIMBER CONSTRUCTION. As described in the *International Building Code*.

IGNITION-RESISTANT CONSTRUCTION, CLASS 1. A schedule of additional requirements for construction in wildland-urban interface areas based on extreme fire hazard.

IGNITION-RESISTANT CONSTRUCTION, CLASS 2. A schedule of additional requirements for construction in wildland-urban interface areas based on high fire hazard.

IGNITION-RESISTANT CONSTRUCTION, CLASS 3. A schedule of additional requirements for construction in wildland-urban interface areas based on moderate fire hazard.

LOG WALL CONSTRUCTION. A type of construction in which exterior walls are constructed of solid wood members and where the smallest horizontal dimension of each solid wood member is at least 6 inches (152 mm).

MULTILAYERED GLAZED PANELS. Window or door assemblies that consist of two or more independently glazed panels installed parallel to each other, having a sealed air gap in between, within a frame designed to fill completely the window or door opening in which the assembly is intended to be installed.

NONCOMBUSTIBLE. As applied to building construction material means a material that, in the form in which it is used, is either one of the following:

1. Material of which no part will ignite and burn when subjected to fire. Any material conforming to ASTM E 136 shall be considered noncombustible within the meaning of this section.
2. Material having a structural base of noncombustible material as defined in Item 1 above, with a surfacing material not over $^{1}/_{8}$ inch (3.2 mm) thick, which has a flame spread rating of 50 or less. Flame spread rating as used herein refers to rating obtained according to tests conducted as specified in ASTM E 84.

"Noncombustible" does not apply to surface finish materials. Material required to be noncombustible for reduced clearances to flues, heating appliances or other sources of high temperature shall refer to material conforming to Item 1. No material shall be classed as noncombustible that is subject to increase in combustibility or flame spread rating, beyond the limits herein established, through the effects of age, moisture or other atmospheric condition.

NONCOMBUSTIBLE ROOF COVERING. One of the following:

1. Cement shingles or sheets.
2. Exposed concrete slab roof.
3. Ferrous or copper shingles or sheets.
4. Slate shingles.
5. Clay or concrete roofing tile.
6. Approved roof covering of noncombustible material.

SLOPE. The variation of terrain from the horizontal; the number of feet (meters) rise or fall per 100 feet (30 480 mm) measured horizontally, expressed as a percentage.

STRUCTURE. That which is built or constructed, an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some manner.

TREE CROWN. The primary and secondary branches growing out from the main stem, together with twigs and foliage.

UNENCLOSED ACCESSORY STRUCTURE. An accessory structure without a complete exterior wall system enclosing the area under roof or floor above.

WILDLAND-URBAN INTERFACE AREA. That geographical area where structures and other human development meets or intermingles with wildland or vegetative fuels.

WILDFIRE. An uncontrolled fire spreading through vegetative fuels, exposing and possibly consuming structures.

WILDLAND. An area in which development is essentially nonexistent, except for roads, railroads, power lines and similar facilities.

CHAPTER 3
WILDLAND-URBAN INTERFACE AREAS

SECTION 301
GENERAL

301.1 Scope. The provisions of this chapter provide methodology to establish and record wildland-urban interface areas based on the findings of fact.

301.2 Objective. The objective of this chapter is to provide simple baseline criteria for determining wildland-urban interface areas.

SECTION 302
WILDLAND-URBAN INTERFACE AREA DESIGNATIONS

302.1 Declaration. The legislative body shall declare the wildland-urban interface areas within the jurisdiction. The wildland-urban interface areas shall be based on the findings of fact (see Appendix E). The wildland-urban interface area boundary shall correspond to natural or man-made features and include a minimum of 640 acres (259 ha) unless a smaller area is approved by the legislative body through an assessment of fuel types and physical characteristics affecting wildland fire behavior.

302.2 Mapping. The wildland-urban interface areas shall be recorded on maps and filed with the clerk of the jurisdiction. These areas shall become effective immediately thereafter.

302.3 Review of wildland-urban interface areas. The code official shall reevaluate and recommend modification to the wildland-urban interface areas in accordance with Section 302.1 on a three-year basis or more frequently as deemed necessary by the legislative body.

CHAPTER 4

WILDLAND-URBAN INTERFACE AREA REQUIREMENTS

SECTION 401
GENERAL

401.1 Scope. Wildland-urban interface areas shall be provided with emergency vehicle access and water supply in accordance with this chapter.

401.2 Objective. The objective of this chapter is to establish the minimum requirements for emergency vehicle access and water supply for buildings and structures located in the wildland-urban interface areas.

401.3 General safety precautions. General safety precautions shall be in accordance with this chapter. See also Appendix A.

SECTION 402
APPLICABILITY

402.1 Subdivisions. Subdivisions shall comply with Sections 402.1.1 and 402.1.2.

402.1.1 Access. New subdivisions, as determined by this jurisdiction, shall be provided with fire apparatus access roads in accordance with the *International Fire Code* and access requirements in accordance with Section 403.

402.1.2 Water supply. New subdivisions as determined by this jurisdiction shall be provided with water supply in accordance with Section 404.

402.2 Individual structures. Individual structures shall comply with Sections 402.2.1 and 402.2.2.

402.2.1 Access. Individual structures hereafter constructed or relocated into or within wildland-urban interface areas shall be provided with fire apparatus access in accordance with the *International Fire Code* and driveways in accordance with Section 403.2. Marking of fire protection equipment shall be provided in accordance with Section 403.5 and address markers shall be provided in accordance with Section 403.6.

402.2.2 Water supply. Individual structures hereafter constructed or relocated into or within wildland-urban interface areas shall be provided with a conforming water supply in accordance with Section 404.

Exceptions:

1. Structures constructed to meet the requirements for the class of ignition-resistant construction specified in Table 503.1 for a nonconforming water supply.
2. Buildings containing only private garages, carports, sheds and agricultural buildings with a floor area of not more than 600 square feet (56 m^2).

402.3 Existing conditions. Existing buildings shall be provided with address markers in accordance with Section 403.6. Existing roads and fire protection equipment shall be provided with markings in accordance with Sections 403.4 and 403.5, respectively.

SECTION 403
ACCESS

403.1 Restricted access. Where emergency vehicle access is restricted because of secured access roads or driveways or where immediate access is necessary for life-saving or fire-fighting purposes, the code official is authorized to require a key box to be installed in an accessible location. The key box shall be of a type approved by the code official and shall contain keys to gain necessary access as required by the code official.

403.2 Driveways. Driveways shall be provided when any portion of an exterior wall of the first story of a building is located more than 150 feet (45 720 mm) from a fire apparatus access road. Driveways shall provide a minimum unobstructed width of 12 feet (3658 mm) and a minimum unobstructed height of 13 feet 6 inches (4115 mm). Driveways in excess of 150 feet (45 720 mm) in length shall be provided with turnarounds. Driveways in excess of 200 feet (60 960 mm) in length and less than 20 feet (6096 mm) in width shall be provided with turnouts in addition to turnarounds.

A driveway shall not serve in excess of five dwelling units.

Exception: When such driveways meet the requirements for an access road in accordance with the *International Fire Code.*

Driveway turnarounds shall have inside turning radii of not less than 30 feet (9144 mm) and outside turning radii of not less than 45 feet (13 716 mm). Driveways that connect with a road or roads at more than one point may be considered as having a turnaround if all changes of direction meet the radii requirements for driveway turnarounds.

Driveway turnouts shall be an all-weather road surface at least 10 feet (3048 mm) wide and 30 feet (9144 mm) long. Driveway turnouts shall be located as required by the code official.

Vehicle load limits shall be posted at both entrances to bridges on driveways and private roads. Design loads for bridges shall be established by the code official.

403.3 Fire apparatus access road. When required, fire apparatus access roads shall be all-weather roads with a minimum width of 20 feet (6096 mm) and a clear height of 13 feet 6 inches (4115 mm); shall be designed to accommodate the loads and turning radii for fire apparatus; and have a gradient negotiable by the specific fire apparatus normally used at that location within the jurisdiction. Dead-end roads in excess of 150 feet (45 720 mm) in length shall be provided with turnarounds as approved by the code official. An all-weather road surface shall be any surface material acceptable to the code official that would normally allow the passage of emergency service vehi-

cles typically used to respond to that location within the jurisdiction.

403.4 Marking of roads. Approved signs or other approved notices shall be provided and maintained for access roads and driveways to identify such roads and prohibit the obstruction thereof or both.

All road identification signs and supports shall be of noncombustible materials. Signs shall have minimum 4-inch-high (102 mm) reflective letters with $^1/_2$ inch (12.7 mm) stroke on a contrasting 6-inch-high (152 mm) sign. Road identification signage shall be mounted at a height of 7 feet (2134 mm) from the road surface to the bottom of the sign.

403.5 Marking of fire protection equipment. Fire protection equipment and fire hydrants shall be clearly identified in a manner approved by the code official to prevent obstruction.

403.6 Address markers. All buildings shall have a permanently posted address, which shall be placed at each driveway entrance and be visible from both directions of travel along the road. In all cases, the address shall be posted at the beginning of construction and shall be maintained thereafter, and the address shall be visible and legible from the road on which the address is located.

Address signs along one-way roads shall be visible from both the intended direction of travel and the opposite direction.

Where multiple addresses are required at a single driveway, they shall be mounted on a single post, and additional signs shall be posted at locations where driveways divide.

Where a roadway provides access solely to a single commercial or industrial business, the address sign shall be placed at the nearest road intersection providing access to that site.

403.7 Grade. The gradient for fire apparatus access roads and driveways shall not exceed the maximum approved by the code official.

SECTION 404
WATER SUPPLY

404.1 General. When provided in order to qualify as a conforming water supply for the purpose of Table 503.1 or as required for new subdivisions in accordance with Section 402.1.2, an approved water source shall have an adequate water supply for the use of the fire protection service to protect buildings and structures from exterior fire sources or to suppress structure fires within the wildland-urban interface area of the jurisdiction in accordance with this section.

Exception: Buildings containing only private garages, carports, sheds and agricultural buildings with a floor area of not more than 600 square feet (56 m^2).

404.2 Water sources. The point at which a water source is available for use shall be located not more than 1,000 feet (305 m) from the building and be approved by the code official. The distance shall be measured along an unobstructed line of travel.

Water sources shall comply with the following:

1. Man-made water sources shall have a minimum usable water volume as determined by the adequate water supply needs in accordance with Section 404.5. This water source shall be equipped with an approved hydrant. The water level of the water source shall be maintained by rainfall, water pumped from a well, water hauled by a tanker, or by seasonal high water of a stream or river. The design, construction, location, water level maintenance, access, and access maintenance of man-made water sources shall be approved by the code official.
2. Natural water sources shall have a minimum annual water level or flow sufficient to meet the adequate water supply needs in accordance with Section 404.5. This water level or flow shall not be rendered unusable because of freezing. This water source shall have an approved draft site with an approved hydrant. Adequate water flow and rights for access to the water source shall be ensured in a form acceptable to the code official.

404.3 Draft sites. Approved draft sites shall be provided at all natural water sources intended for use as fire protection for compliance with this code. The design, construction, location, access and access maintenance of draft sites shall be approved by the code official.

The draft site shall have emergency vehicle access from an access road in accordance with Section 402. The pumper access point shall be either an emergency vehicle access area alongside a conforming access road or an approved driveway no longer than 150 feet (45 720 mm). Pumper access points and access driveways shall be designed and constructed in accordance with all codes and ordinances enforced by this jurisdiction. Pumper access points shall not require the pumper apparatus to obstruct a road or driveway.

404.4 Hydrants. All hydrants shall be designed and constructed in accordance with nationally recognized standards. The location and access shall be approved by the code official.

404.5 Adequate water supply. Adequate water supply shall be determined for purposes of initial attack and flame front control as follows:

1. **One- and two-family dwellings.** The required water supply for one- and two-family dwellings having a fire area that does not exceed 3,600 square feet (334 m^2) shall be 1,000 gallons per minute (63.1 L/s) for a minimum duration of 30 minutes. The required water supply for one- and two-family dwellings having a fire area in excess of 3,600 square feet (334 m^2) shall be 1,500 gallons per minute (95 L/s) for a minimum duration of 30 minutes.

   Exception: A reduction in required flow rate of 50 percent, as approved by the code official, is allowed when the building is provided with an approved automatic sprinkler system.

2. **Buildings other than one- and two-family dwellings.** The water supply required for buildings other than one- and two-family dwellings shall be as approved by the code official but shall not be less than 1,500 gallons per minute (95 L/s) for a duration of two hours.

   Exception: A reduction in required flow rate of up to 75 percent, as approved by the code official, is allowed when the building is provided with an

approved automatic sprinkler system. The resulting water supply shall not be less than 1,500 gallons per minute (94.6 L/s).

404.6 Fire department. The water supply required by this code shall only be approved when a fire-department-rated Class 9 or better in accordance with ISO Commercial Rating Service, 1995, is available.

404.7 Obstructions. Access to all water sources required by this code shall be unobstructed at all times. The code official shall not be deterred or hindered from gaining immediate access to water source equipment, fire protection equipment or hydrants.

404.8 Identification. Water sources, draft sites, hydrants and fire protection equipment and hydrants shall be clearly identified in a manner approved by the code official to identify location and to prevent obstruction by parking and other obstructions.

404.9 Testing and maintenance. Water sources, draft sites, hydrants and other fire protection equipment required by this code shall be subject to periodic tests as required by the code official. All such equipment installed under the provisions of this code shall be maintained in an operative condition at all times and shall be repaired or replaced where defective. Additions, repairs, alterations and servicing of such fire protection equipment and resources shall be in accordance with approved standards.

404.10 Reliability. Water supply reliability shall comply with Sections 404.10.1 through 404.10.3.

404.10.1 Objective. The objective of this section is to increase the reliability of water supplies by reducing the exposure of vegetative fuels to electrically powered systems.

404.10.2 Clearance of fuel. Defensible space shall be provided around water tank structures, water supply pumps and pump houses in accordance with Section 603.

404.10.3 Standby power. Stationary water supply facilities within the wildland-urban interface area dependent on electrical power to meet adequate water supply demands shall provide standby power systems in accordance with the ICC *Electrical Code* to ensure that an uninterrupted water supply is maintained. The standby power source shall be capable of providing power for a minimum of two hours.

Exceptions:

1. When approved by the code official, a standby power supply is not required where the primary power service to the stationary water supply facility is underground.
2. A standby power supply is not required where the stationary water supply facility serves no more than one single-family dwelling.

SECTION 405
FIRE PROTECTION PLAN

405.1 General. When required by the code official, a fire protection plan shall be prepared.

405.2 Content. The plan shall be based upon a site-specific wildfire risk assessment that includes considerations of location, topography, aspect, flammable vegetation, climatic conditions and fire history. The plan shall address water supply, access, building ignition and fire-resistance factors, fire protection systems and equipment, defensible space and vegetation management.

405.3 Cost. The cost of fire protection plan preparation and review shall be the responsibility of the applicant.

405.4 Plan retention. The fire protection plan shall be retained by the code official.

CHAPTER 5
SPECIAL BUILDING CONSTRUCTION REGULATIONS

SECTION 501
GENERAL

501.1 Scope. Buildings and structures shall be constructed in accordance with the *International Building Code* and this code.

Exceptions:

1. Accessory structures not exceeding 120 square feet (11 m^2) in floor area when located at least 50 feet (15 240 mm) from buildings containing habitable spaces.
2. Agricultural buildings at least 50 feet (15 240 mm) from buildings containing habitable spaces.

501.2 Objective. The objective of this chapter is to establish minimum standards to locate, design and construct buildings and structures or portions thereof for the protection of life and property, to resist damage from wildfires, and to mitigate building and structure fires from spreading to wildland fuels. The minimum standards set forth in this chapter vary with the critical fire weather, slope and fuel type to provide increased protection, above the requirements set forth in the *International Building Code*, from the various levels of hazards.

SECTION 502
FIRE HAZARD SEVERITY

502.1 General. The fire hazard severity of building sites for all buildings hereafter constructed, modified or relocated into wildland-urban interface areas shall be established in accordance with Table 502.1. See also Appendix C.

502.2 Fire hazard severity reduction. The fire hazard severity identified in Table 502.1 is allowed to be reduced by implementing a vegetation management plan in accordance with Appendix B.

SECTION 503
IGNITION-RESISTANT CONSTRUCTION

503.1 General. Buildings and structures hereafter constructed, modified or relocated into or within wildland-urban interface areas shall meet the construction requirements in accordance with Table 503.1. Class 1, Class 2 or Class 3 ignition-resistant construction shall be in accordance with Sections 504, 505 and 506, respectively.

SECTION 504
CLASS 1 IGNITION-RESISTANT CONSTRUCTION

504.1 General. Class 1 ignition-resistant construction shall be in accordance with Sections 504.2 through 504.11

504.2 Roof covering. Roofs shall have a Class A roof covering or a Class A roof assembly. For roof coverings where the profile allows a space between the roof covering and roof decking, the space at the eave ends shall be firestopped to preclude entry of flames or embers.

504.3 Protection of eaves. Eaves and soffits shall be protected on the exposed underside by materials approved for a minimum of 1-hour fire-resistance-rated construction, 2-inch (51 mm) nominal dimension lumber, or 1-inch (25.4 mm) nominal fire-retardant-treated lumber or $^3/_4$-inch (19 mm) nominal fire-retardant-treated plywood, identified for exterior use and meeting the requirements of Section 2303.2 of the *International Building Code*. Fascias are required and shall be protected on

TABLE 502.1
FIRE HAZARD SEVERITY

	CRITICAL FIRE WEATHER FREQUENCY								
	≤1 Day[a]			2 to 7 days[a]			≥ 8 days[a]		
	Slope (%)			Slope (%)			Slope (%)		
FUEL MODEL[b]	≤40	41-60	≥ 61	≤40	41-60	≥ 61	≤40	41-60	≥ 61
Light fuel	M	M	M	M	M	M	M	M	H
Medium fuel	M	M	H	H	H	H	E	E	E
Heavy fuel	H	H	H	H	E	E	E	E	E

a. Days per annum.
b. When required by the code official, fuel classification shall be based on the historical fuel type for the area.
E = Extreme hazard.
H = High hazard.
M = Moderate hazard.

TABLE 503.1
IGNITION-RESISTANT CONSTRUCTION[a]

DEFENSIBLE SPACE[c]	FIRE HAZARD SEVERITY					
	Moderate Hazard		High Hazard		Extreme Hazard	
	Water Supply[b]		Water Supply[b]		Water Supply[b]	
	Conforming[d]	Nonconforming[e]	Conforming[d]	Nonconforming[e]	Conforming[d]	Nonconforming[e]
Nonconforming	IR 2	IR 1	IR 1	IR 1 N.C.	IR 1 N.C.	Not Permitted
Conforming	IR 3	IR 2	IR 2	IR 1	IR 1	IR 1 N.C.
1.5 x Conforming	Not Required	IR 3	IR 3	IR 2	IR 2	IR 1

a. Access shall be in accordance with Section 402.

b. Subdivisions shall have a conforming water supply in accordance with Section 402.1.

IR 1 = Ignition-resistant construction in accordance with Section 504.

IR 2 = Ignition-resistant construction in accordance with Section 505.

IR 3 = Ignition-resistant construction in accordance with Section 506.

N.C. = Exterior walls shall have a fire-resistance rating of not less than 1-hour and the exterior surfaces of such walls shall be noncombustible. Usage of log wall construction is allowed.

c. Conformance based on Section 603.

d. Conformance based on Section 404.

e. A nonconforming water supply is any water system or source that does not comply with Section 404, including situations where there is no water supply for structure protection or fire suppression.

the backside by materials approved for a minimum of 1-hour fire-resistance-rated construction or 2-inch (51 mm) nominal dimension lumber.

504.4 Gutters and downspouts. Gutters and downspouts shall be constructed of noncombustible material.

504.5 Exterior walls. Exterior walls of buildings or structures shall be constructed with materials approved for a minimum of 1-hour fire-resistance-rated construction on the exterior side or constructed with approved noncombustible materials.

Exception: Heavy timber or log wall construction.

Such material shall extend from the top of the foundation to the underside of the roof sheathing.

504.6 Unenclosed underfloor protection. Buildings or structures shall have all underfloor areas enclosed to the ground with exterior walls in accordance with Section 504.5.

Exception: Complete enclosure may be omitted where the underside of all exposed floors and all exposed structural columns, beams and supporting walls are protected as required for exterior 1-hour fire-resistance-rated construction or heavy timber construction.

504.7 Appendages and projections. Unenclosed accessory structures attached to buildings with habitable spaces and projections, such as decks, shall be a minimum of 1-hour fire-resistance-rated construction, heavy timber construction or constructed of approved noncombustible materials or fire-retardant-treated wood identified for exterior use and meeting the requirements of Section 2303.2 of the *International Building Code*.

When the attached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all underfloor areas enclosed to within 6 inches (152 mm) of the ground, with exterior wall construction in accordance with Section 504.5.

504.8 Exterior glazing. Exterior windows, window walls and glazed doors, windows within exterior doors, and skylights shall be tempered glass, multilayered glazed panels, glass block or have a fire protection rating of not less than 20 minutes.

504.9 Exterior doors. Exterior doors shall be approved noncombustible construction, solid core wood not less than $1^3/_4$ inches thick (45 mm), or have a fire protection rating of not less than 20 minutes. Windows within doors and glazed doors shall be in accordance with Section 504.8.

Exception: Vehicle access doors.

504.10 Vents. Attic ventilation openings, foundation or underfloor vents, or other ventilation openings in vertical exterior walls and vents through roofs shall not exceed 144 square inches (0.0929 m^2) each. Such vents shall be covered with noncombustible corrosion-resistant mesh with openings not to exceed $^1/_4$ inch (6.4 mm), or shall be designed and approved to prevent flame or ember penetration into the structure.

Attic ventilation openings shall not be located in soffits, in eave overhangs, between rafters at eaves, or in other overhang areas. Gable end and dormer vents shall be located at least 10 feet (3048 mm) from property lines. Underfloor ventilation openings shall be located as close to grade as practical.

504.11 Detached accessory structures. Detached accessory structures located less than 50 feet (15 240 mm) from a building containing habitable space shall have exterior walls constructed with materials approved for a minimum of 1-hour fire-resistance-rated construction, heavy timber, log wall construc-

tion or constructed with approved noncombustible materials on the exterior side.

When the detached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all underfloor areas enclosed to within 6 inches (152 mm) of the ground, with exterior wall construction in accordance with Section 504.5 or underfloor protection in accordance with Section 504.6.

Exception: The enclosure may be omitted where the underside of all exposed floors and all exposed structural columns, beams and supporting walls are protected as required for exterior 1-hour fire-resistance-rated construction or heavy-timber construction.

See Section 504.2 for roof requirements.

SECTION 505
CLASS 2 IGNITION-RESISTANT CONSTRUCTION

505.1 General. Class 2 ignition-resistant construction shall be in accordance with Sections 505.2 through 505.11.

505.2 Roof covering. Roofs shall have at least a Class B roof covering, Class B roof assembly or an approved noncombustible roof covering. For roof coverings where the profile allows a space between the roof covering and roof decking, the space at the eave ends shall be firestopped to preclude entry of flames or embers.

505.3 Protection of eaves. Combustible eaves, fascias and soffits shall be enclosed with solid materials with a minimum thickness of $^3/_4$ inch (19 mm). No exposed rafter tails shall be permitted unless constructed of heavy timber materials.

505.4 Gutters and downspouts. Gutters and downspouts shall be constructed of noncombustible material.

505.5 Exterior walls. Exterior walls of buildings or structures shall be constructed with materials approved for a minimum of 1-hour fire-resistance-rated construction on the exterior side or constructed with approved noncombustible materials.

Exception: Heavy timber or log wall construction.

Such material shall extend from the top of the foundation to the underside of the roof sheathing.

505.6 Unenclosed underfloor protection. Buildings or structures shall have all underfloor areas enclosed to the ground, with exterior walls in accordance with Section 505.5.

Exception: Complete enclosure may be omitted where the underside of all exposed floors and all exposed structural columns, beams and supporting walls are protected as required for exterior 1-hour fire-resistance-rated construction or heavy timber construction.

505.7 Appendages and projections. Unenclosed accessory structures attached to buildings with habitable spaces and projections, such as decks, shall be a minimum of 1-hour fire-resistance-rated construction, heavy timber construction or constructed of approved noncombustible materials or fire-retardant-treated wood identified for exterior use and meeting the requirements of Section 2303.2 of the *International Building Code*.

When the attached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all underfloor areas enclosed to within 6 inches (152 mm) of the ground, with exterior wall construction in accordance with Section 505.5.

505.8 Exterior glazing. Exterior windows, window walls and glazed doors, windows within exterior doors, and skylights shall be tempered glass, multilayered glazed panels, glass block or have a fire-protection rating of not less than 20 minutes.

505.9 Exterior doors. Exterior doors shall be approved noncombustible construction, solid core wood not less than $1^3/_4$-inches thick (45 mm), or have a fire protection rating of not less than 20 minutes. Windows within doors and glazed doors shall be in accordance with Section 505.8.

Exception: Vehicle access doors.

505.10 Vents. Attic ventilation openings, foundation or underfloor vents or other ventilation openings in vertical exterior walls and vents through roofs shall not exceed 144 square inches (0.0929 m^2) each. Such vents shall be covered with noncombustible corrosion-resistant mesh with openings not to exceed $^1/_4$ inch (6.4 mm) or shall be designed and approved to prevent flame or ember penetration into the structure.

Attic ventilation openings shall not be located in soffits, in eave overhangs, between rafters at eaves, or in other overhang areas. Gable end and dormer vents shall be located at least 10 feet (3048 mm) from property lines. Underfloor ventilation openings shall be located as close to grade as practical.

505.11 Detached accessory structures. Detached accessory structures located less than 50 feet (15 240 mm) from a building containing habitable space shall have exterior walls constructed with materials approved for a minimum of 1-hour fire-resistance-rated construction, heavy timber, log wall construction, or constructed with approved noncombustible material on the exterior side.

When the detached structure is located and constructed so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all underfloor areas enclosed to within 6 inches (152 mm) of the ground, with exterior wall construction in accordance with Section 505.5 or underfloor protection in accordance with Section 505.6.

Exception: The enclosure may be omitted where the underside of all exposed floors and all exposed structural columns, beams and supporting walls are protected as required for exterior 1-hour fire-resistance-rated construction or heavy-timber construction.

See Section 505.2 for roof requirements.

SECTION 506
CLASS 3 IGNITION-RESISTANT CONSTRUCTION

506.1 General. Class 3 ignition-resistant construction shall be in accordance with Sections 506.2 through 506.4.

506.2 Roof covering. Roofs shall have at least a Class C roof covering, Class C roof assembly or an approved noncombustible roof covering. For roof coverings where the profile allows a space between the roof covering and roof decking, the space at the eave ends shall be firestopped to preclude entry of flames or embers.

506.3 Unenclosed underfloor protection. Buildings or structures shall have all underfloor areas enclosed to the ground with exterior walls.

> **Exception:** Complete enclosure may be omitted where the underside of all exposed floors and all exposed structural columns, beams and supporting walls are protected as required for exterior 1-hour fire-resistance-rated construction or heavy timber construction.

506.4 Vents. Attic ventilation openings, soffit vents, foundation or underfloor vents or other ventilation openings in vertical exterior walls and vents through roofs shall not exceed 144 square inches (0.0929 m^2) each. Such vents shall be covered with noncombustible corrosion-resistant mesh with openings not to exceed $^1/_4$ inch (6.4 mm).

SECTION 507
REPLACEMENT OR REPAIR OF ROOF COVERINGS

507.1 General. The roof covering on buildings or structures in existence prior to the adoption of this code that are replaced or have 25 percent or more replaced in a 12-month period shall be replaced with a roof covering required for new construction based on the type of ignition-resistant construction specified in accordance with Section 503.

CHAPTER 6
FIRE PROTECTION REQUIREMENTS

SECTION 601
GENERAL

601.1 Scope. The provisions of this chapter establish general requirements for new and existing buildings, structures and premises located within wildland-urban interface areas.

601.2 Objective. The objective of this chapter is to establish minimum requirements to mitigate the risk to life and property from wildland fire exposures, exposures from adjacent structures and to mitigate structure fires from spreading to wildland fuels.

SECTION 602
AUTOMATIC SPRINKLER SYSTEMS

602.1 General. An approved automatic sprinkler system shall be installed in all occupancies in new buildings required to meet the requirements for Class 1 ignition-resistant construction in Chapter 5. The installation of the automatic sprinkler systems shall be in accordance with nationally recognized standards.

SECTION 603
DEFENSIBLE SPACE

603.1 Objective. Provisions of this section are intended to modify the fuel load in areas adjacent to structures to create a defensible space.

603.2 Fuel modification. In order to qualify as a conforming defensible space for the purpose of Table 503.1, for individual buildings or structures on a property, fuel modification shall be provided within a distance from buildings or structures as specified in Table 603.2. For all other purposes, the fuel modification distance shall not be less than 30 feet (91 467 mm) or to the property line, whichever is less. Distances specified in Table 603.2 shall be measured on a horizontal plane from the perimeter or projection of the building or structure as shown in Figure 603.2. Distances specified in Table 603.2 may be increased by the code official because of a site-specific analysis based on local conditions and the fire protection plan.

Persons owning, leasing, controlling, operating or maintaining buildings or structures requiring defensible spaces are responsible for modifying or removing nonfire-resistive vegetation on the property owned, leased or controlled by said person.

Trees are allowed within the defensible space, provided the horizontal distance between crowns of adjacent trees and crowns of trees and structures, overhead electrical facilities or unmodified fuel is not less than 10 feet (3048 mm). Deadwood and litter shall be regularly removed from trees.

Where ornamental vegetative fuels or cultivated ground cover, such as green grass, ivy, succulents or similar plants are used as ground cover, they are allowed to be within the designated defensible space, provided they do not form a means of transmitting fire from the native growth to any structure.

TABLE 603.2
REQUIRED DEFENSIBLE SPACE

WILDLAND-URBAN INTERFACE AREA	FUEL MODIFICATION DISTANCE (feet)[a]
Moderate hazard	30
High hazard	50
Extreme hazard	100

For SI: 1 foot = 304.8 mm.

a. Distances are allowed to be increased due to site-specific analysis based on local conditions and the fire protection plan.

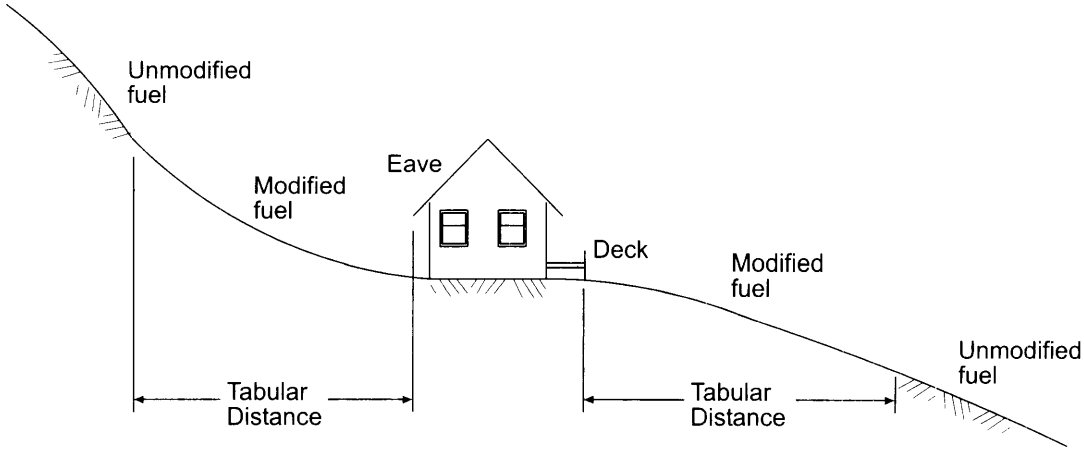


FIGURE 603.2
MEASUREMENTS OF FUEL MODIFICATION DISTANCE

SECTION 604
MAINTENANCE OF DEFENSIBLE SPACE

604.1 General. Defensible spaces required by Section 603 shall be maintained in accordance with Section 604.

604.2 Modified area. Nonfire-resistive vegetation or growth shall be kept clear of buildings or structures, in accordance with Section 603, in such a manner as to provide a clear area for fire suppression operations.

604.3 Responsibility. Persons owning, leasing, controlling, operating or maintaining buildings or structures are responsible for maintenance of defensible spaces. Maintenance of the defensible space shall include modifying or removing nonfire-resistive vegetation and keeping leaves, needles and other dead vegetative material regularly removed from roofs of buildings and structures.

604.4 Trees. Tree crowns extending to within 10 feet (3048 mm) of any structure shall be pruned to maintain a minimum horizontal clearance of 10 feet (3048 mm). Tree crowns within the defensible space shall be pruned to remove limbs located less than 6 feet (1829 mm) above the ground surface adjacent to the trees.

Portions of tree crowns that extend within 10 feet (3048 mm) of the outlet of a chimney shall be pruned to maintain a minimum horizontal clearance of 10 feet (3048 mm).

Deadwood and litter shall be regularly removed from trees.

SECTION 605
SPARK ARRESTERS

605.1 General. Chimneys serving fireplaces, barbecues, incinerators or decorative heating appliances in which solid or liquid fuel is used, shall be provided with a spark arrester. Spark arresters shall be constructed of woven or welded wire screening of 12 USA standard gage wire (0.1046 inch) (2.66 mm) having openings not exceeding $^1/_2$ inch (12.7 mm).

605.2 Net free area. The net free area of the spark arrester shall not be less than four times the net free area of the outlet of the chimney.

SECTION 606
LIQUEFIED PETROLEUM GAS INSTALLATIONS

606.1 General. The storage of liquefied petroleum gas (LP-gas) and the installation and maintenance of pertinent equipment shall be in accordance with the *International Fire Code* or, in the absence thereof, recognized standards.

606.2 Location of containers. LP-gas containers shall be located within the defensible space in accordance with the *Interational Fire Code*.

SECTION 607
STORAGE OF FIREWOOD AND COMBUSTIBLE MATERIALS

607.1 General. Firewood and combustible material shall not be stored in unenclosed spaces beneath buildings or structures, or on decks or under eaves, canopies or other projections or overhangs. When required by the code official, storage of firewood and combustible material stored in the defensible space shall be located a minimum of 20 feet (6096 mm) from structures and separated from the crown of trees by a minimum horizontal distance of 15 feet (4572 mm).

607.2 Storage for off-site use. Firewood and combustible materials not for consumption on the premises shall be stored so as to not pose a hazard. See Appendix A.

CHAPTER 7
REFERENCED STANDARDS

This chapter lists the standards that are referenced in various sections of this document. The standards are listed herein by the promulgating agency of the standard, the standard identification, the effective date and title, and the section or sections of this document that reference the standard.

ASTM

ASTM International
100 Barr Harbor Drive
West Conshohocken, PA 19428–2959

Standard reference number	Title	Referenced in code section number
E 136—99e01	Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C	202
E 84—04	Test Methods for Surface-Burning Characteristics of Building Materials	202

ICC

International Code Council
500 New Jersey Avenue, NW, 6th Floor
Washington, DC 20001

Standard reference number	Title	Referenced in code section number
ICC EC—06	ICC Electrical Code®—Administrative Provisions	404.10.3
IBC—06	International Building Code®	103.3, 105.3, 106.3, 202, 501.1, 501.2, 504.3, 504.7, 505.7
IFC—06	International Fire Code®	105.3, 202, 402.1.1, 402.2.1, 403.2, 606.1, 606.2

APPENDIX A

GENERAL REQUIREMENTS

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION A101
GENERAL

A101.1 Scope. The provisions of this appendix establish general requirements applicable to new and existing properties located within wildland-urban interface areas.

A101.2 Objective. The objective of this appendix is to provide necessary fire-protection measures to reduce the threat of wildfire in an wildland-urban interface area and improve the capability of controlling such fires.

SECTION A102
VEGETATION CONTROL

A102.1 General. Vegetation control shall comply with Sections A102.2 through A102.4.

A102.2 Clearance of brush or vegetative growth from roadways. The code official is authorized to require areas within 10 feet (3048 mm) on each side of portions of fire apparatus access roads and driveways to be cleared of nonfire-resistive vegetation growth.

Exception: Single specimens of trees, ornamental vegetative fuels or cultivated ground cover, such as green grass, ivy, succulents or similar plants used as ground cover, provided they do not form a means of readily transmitting fire.

A102.3 Clearance of brush and vegetative growth from electrical transmission and distribution lines.

A102.3.1 General. Clearance of brush and vegetative growth from electrical transmission and distribution lines shall be in accordance with Section A102.3.

Exception: Section A102.3 does not authorize persons not having legal right of entry to enter on or damage the property of others without consent of the owner.

A102.3.2 Support clearance. Persons owning, controlling, operating or maintaining electrical transmission or distribution lines shall have an approved program in place that identifies poles or towers with equipment and hardware types that have a history of becoming an ignition source, and provides a combustible free space consisting of a clearing of not less than 10 feet (3048 mm) in each direction from the outer circumference of such pole or tower during such periods of time as designated by the code official.

Exception: Lines used exclusively as telephone, telegraph, messenger call, alarm transmission or other lines classed as communication circuits by a public utility.

A102.3.3 Electrical distribution and transmission line clearances.

A102.3.3.1 General. Clearances between vegetation and electrical lines shall be in accordance with Section A102.3.3.

A102.3.3.2 Trimming clearance. At the time of trimming, clearances not less than those established by Table A102.3.3.2 shall be provided. The radial clearances shown below are minimum clearances that shall be established, at time of trimming, between the vegetation and the energized conductors and associated live parts.

TABLE A102.3.3.2
MINIMUM CLEARANCES BETWEEN VEGETATION AND ELECTRICAL LINES AT TIME OF TRIMMING

LINE VOLTAGE	MINIMUM RADIAL CLEARANCE FROM CONDUCTOR (feet)
2,400-72,000	4
72,001-110,000	6
110,001-300,000	10
300,001 or more	15

For SI: 1 foot = 304.8 mm.

Exception: The code official is authorized to establish minimum clearances different than those specified by Table A102.3.3.2 when evidence substantiating such other clearances is submitted to and approved by the code official.

A102.3.3.3 Minimum clearance to be maintained. Clearances not less than those established by Table A102.3.3.3 shall be maintained during such periods of time as designated by the code official. The site-specific clearance achieved, at time of pruning, shall vary based on species growth rates, the utility company-specific trim cycle, the potential line sway due to wind, line sag due to electrical loading and ambient temperature and the tree's location in proximity to the high voltage lines.

Exception: The code official is authorized to establish minimum clearances different than those specified by Table A102.3.3.3 when evidence substantiating such other clearances is submitted to and approved by the code official.

TABLE A102.3.3.3
MINIMUM CLEARANCES BETWEEN VEGETATION AND ELECTRICAL LINES TO BE MAINTAINED

LINE VOLTAGE	MINIMUM CLEARANCE (inches)
750-35,000	6
35,001-60,000	12
60,001-115,000	19
115,001-230,000	30.5
230,001-500,000	115

For SI: 1 inch = 25.4 mm.

A102.3.3.4 Electrical power line emergencies. During emergencies, the utility shall perform the required work to the extent necessary to clear the hazard. An emergency

can include situations such as trees falling into power lines, or trees in violation of Table A102.3.3.3.

A102.4 Correction of condition. The code official is authorized to give notice to the owner of the property on which conditions regulated by Section A102 exist to correct such conditions. If the owner fails to correct such conditions, the legislative body of the jurisdiction is authorized to cause the same to be done and make the expense of such correction a lien on the property where such condition exists.

SECTION A103
ACCESS RESTRICTIONS

A103.1 Restricted entry to public lands. The code official is authorized to determine and publicly announce when wildland-urban interface areas shall be closed to entry and when such areas shall again be opened to entry. Entry on and occupation of wildland-urban interface areas, except public roadways, inhabited areas or established trails and campsites that have not been closed during such time when the wildland-urban interface area is closed to entry, is prohibited.

Exceptions:

1. Residents and owners of private property within wildland-urban interface areas and their invitees and guests going to or being on their lands.
2. Entry, in the course of duty, by peace or police officers, and other duly authorized public officers, members of a fire department and members of the Wildland Firefighting Service.

A103.2 Trespassing on posted private property.

A103.2.1 General. When the code official determines that a specific area within an wildland-urban interface area presents an exceptional and continuing fire danger because of the density of natural growth, difficulty of terrain, proximity to structures or accessibility to the public, such areas shall be restricted or closed until changed conditions warrant termination of such restriction or closure. Such areas shall be posted in accordance with Section A103.2.2.

A103.2.2 Signs. Approved signs prohibiting entry by unauthorized persons and referring to this code shall be placed on every closed area.

A103.2.3 Trespassing. Entering and remaining within areas closed and posted is prohibited.

Exception: Owners and occupiers of private or public property within closed and posted areas; their guests or invitees; authorized persons engaged in the operation and maintenance of necessary utilities such as electrical power, gas, telephone, water and sewer; and local, state and federal public officers and their authorized agents acting in the course of duty.

A103.3 Use of fire roads and defensible space. Motorcycles, motor scooters and motor vehicles shall not be driven or parked on, and trespassing is prohibited on, fire roads or defensible space beyond the point where travel is restricted by a cable, gate or sign, without the permission of the property owners. Vehicles shall not be parked in a manner that obstructs the entrance to a fire road or defensible space.

Exception: Public officers acting within their scope of duty.

Radio and television aerials, guy wires thereto, and other obstructions shall not be installed or maintained on fire roads or defensible spaces, unless located 16 feet (4877 mm) or more above such fire road or defensible space.

A103.4 Use of motorcycles, motor scooters, ultralight aircraft and motor vehicles. Motorcycles, motor scooters, ultralight aircraft and motor vehicles shall not be operated within wildland-urban interface areas, without a permit by the code official, except on clearly established public or private roads. Permission from the property owner shall be presented when requesting a permit.

A103.5 Tampering with locks, barricades, signs and address markers. Locks, barricades, seals, cables, signs and address markers installed within wildland-urban interface areas, by or under the control of the code official, shall not be tampered with, mutilated, destroyed or removed.

Gates, doors, barriers and locks installed by or under the control of the code official shall not be unlocked.

SECTION A104
IGNITION SOURCE CONTROL

A104.1 General. Ignition sources shall be in accordance with Section A104.

A104.2 Objective. Regulations in this section are intended to provide the minimum requirements to prevent the occurrence of wildfires.

A104.3 Clearance from ignition sources. Clearance between ignition sources and grass, brush or other combustible materials shall be maintained a minimum of 30 feet (9144 mm).

A104.4 Smoking. When required by the code official, signs shall be posted stating NO SMOKING. No person shall smoke within 15 feet (4572 mm) of combustible materials or nonfire-resistive vegetation.

Exception: Places of habitation or in the boundaries of established smoking areas or campsites as designated by the code official.

A104.5 Equipment and devices generating heat, sparks or open flames. Equipment and devices generating heat, sparks or open flames capable of igniting nearby combustibles shall not be used in wildland-urban interface areas without a permit from the code official.

Exception: Use of approved equipment in habitated premises or designated campsites that are a minimum of 30 feet (9144 mm) from grass-, grain-, brush- or forest-covered areas.

A104.6 Fireworks. Fireworks shall not be used or possessed in wildland-urban interface areas.

Exception: Fireworks allowed by the code official under permit in accordance with the *International Fire Code* when not prohibited by applicable local or state laws, ordinances and regulations.

The code official is authorized to seize, take, remove or cause to be removed fireworks in violation of this section.

A104.7 Outdoor fires.

A104.7.1 General. No person shall build, ignite or maintain any outdoor fire of any kind for any purpose in or on any wildland-urban interface area, except by the authority of a written permit from the code official.

Exception: Outdoor fires within inhabited premises or designated campsites where such fires are in a permanent barbecue, portable barbecue, outdoor fireplace, incinerator or grill and are a minimum of 30 feet (9144 mm) from any combustible material or nonfire-resistive vegetation.

A104.7.2 Permits. Permits shall incorporate such terms and conditions that will reasonably safeguard public safety and property. Outdoor fires shall not be built, ignited or maintained in or on hazardous fire areas under the following conditions:

1. When high winds are blowing,
2. When a person 17 years old or over is not present at all times to watch and tend such fire, or
3. When a public announcement is made that open burning is prohibited.

A104.7.3 Restrictions. No person shall use a permanent barbecue, portable barbecue, outdoor fireplace or grill for the disposal of rubbish, trash or combustible waste material.

A104.8 Incinerators, outdoor fireplaces, permanent barbecues and grills. Incinerators, outdoor fireplaces, permanent barbecues and grills shall not be built, installed or maintained in wildland-urban interface areas without approval of the code official.

Incinerators, outdoor fireplaces, permanent barbecues and grills shall be maintained in good repair and in a safe condition at all times. Openings in such appliances shall be provided with an approved spark arrestor, screen or door.

Exception: When approved by the code official, unprotected openings in barbecues and grills necessary for proper functioning.

A104.9 Reckless behavior. The code official is authorized to stop any actions of a person or persons if the official determines that the action is reckless and could result in an ignition of fire or spread of fire.

A104.10 Planting vegetation under or adjacent to energized electrical lines. No vegetation shall be planted under or adjacent to energized power lines that, at maturity, shall grow within 10 feet (3048 mm) of the energized conductors.

SECTION A105
CONTROL OF STORAGE

A105.1 General. In addition to the requirements of the *International Fire Code*, storage and use of the materials shall be in accordance with Section A105.

A105.2 Hazardous materials. Hazardous materials in excess of 10 gallons (37.8 L) of liquid, 200 cubic feet (5.66 m^3) of gas, or 10 pounds (4.54 kg) of solids require a permit and shall comply with nationally recognized standards for storage and use.

A105.3 Explosives. Explosives shall not be possessed, kept, stored, sold, offered for sale, given away, used, discharged, transported or disposed of within wildland-urban interface areas, except by permit from the code official.

A105.4 Combustible materials.

A105.4.1 General. Outside storage of combustible materials such as, but not limited to, wood, rubber tires, building materials or paper products shall comply with the other applicable sections of this code and this section.

A105.4.2 Individual piles. Individual piles shall not exceed 5,000 square feet (465 m^2) of contiguous area. Piles shall not exceed 50,000 cubic feet (1416 m^3) in volume or 10 feet (3048 mm) in height.

A105.4.3 Separation. A clear space of at least 40 feet (12 192 mm) shall be provided between piles. The clear space shall not contain combustible material or nonfire-resistive vegetation.

SECTION A106
DUMPING

A106.1 Waste material. Waste material shall not be placed, deposited or dumped in wildland-urban interface areas, or in, on or along trails, roadways or highways or against structures in wildland-urban interface areas.

Exception: Approved public and approved private dumping areas.

A106.2 Ashes and coals. Ashes and coals shall not be placed, deposited or dumped in or on wildland-urban interface areas.

Exceptions:

1. In the hearth of an established fire pit, camp stove or fireplace.
2. In a noncombustible container with a tightfitting lid, which is kept or maintained in a safe location not less than 10 feet (3048 mm) from nonfire-resistive vegetation or structures.
3. Where such ashes or coals are buried and covered with 1 foot (305 mm) of mineral earth not less than 25 feet (7620 mm) from nonfire-resistive vegetation or structures.

SECTION A107
PROTECTION OF PUMPS AND WATER STORAGE FACILITIES

A107.1 General. The reliability of the water supply shall be in accordance with Section A107.

A107.2 Objective. The intent of this section is to increase the reliability of water storage and pumping facilities and to protect such systems against loss from intrusion by fire.

A107.3 Fuel modification area. Water storage and pumping facilities shall be provided with a defensible space of not less

than 30 feet (9144 mm) clear of nonfire-resistive vegetation or growth around and adjacent to such facilities.

Persons owning, controlling, operating or maintaining water storage and pumping systems requiring this defensible space are responsible for clearing and removing nonfire-resistive vegetation and maintaining the defensible space on the property owned, leased or controlled by said person.

A107.4 Trees. Portions of trees that extend to within 30 feet (9144 mm) of combustible portions of water storage and pumping facilities shall be removed.

A107.5 Protection of electrical power supplies. When electrical pumps are used to provide the required water supply, such pumps shall be connected to a standby power source to automatically maintain electrical power in the event of power loss. The standby power source shall be capable of providing power for a minimum of two hours in accordance with the ICC *Electrical Code*.

Exception: A standby power source is not required where the primary power service to pumps are underground as approved by the code official.

SECTION A108
LAND USE LIMITATIONS

A108.1 General. Temporary fairs, carnivals, public exhibitions and similar uses must comply with all other provisions of this code in addition to enhanced ingress and egress requirements.

A108.2 Objective. The increased public use of land or structures in wildland-urban interface areas also increases the potential threat to life safety. The provisions of this section are intended to reduce that threat.

A108.3 Permits. Temporary fairs, carnivals, public exhibitions or similar uses shall not be allowed in a designated wildland-urban interface area, except by permit from the code official.

Permits shall incorporate such terms and conditions that will reasonably safeguard public safety and property.

A108.4 Access roadways. In addition to the requirements in Section 403, access roadways shall be a minimum of 24 feet (7315 mm) wide and posted NO PARKING. Two access roadways shall be provided to serve the permitted use area.

When required by the code official to facilitate emergency operations, approved emergency vehicle operating areas shall be provided.

SECTION A109
REFERENCED STANDARDS

IFC-2006	International Fire Code	A104.6, A105.1
ICC-EC-2006	ICC Electrical Code—Administrative Provisions	A107.5

APPENDIX B

VEGETATION MANAGEMENT PLAN

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION B101
GENERAL

B101.1 Scope. Vegetation management plans shall be submitted to the code official for review and approval as part of the plans required for a permit.

B101.2 Plan content. Vegetation management plans shall describe all actions that will be taken to prevent a fire from being carried toward or away from the building. A vegetation management plan shall include at least the following information:

1. A copy of the site plan.
2. Methods and timetables for controlling, changing or modifying areas on the property. Elements of the plan shall include removal of slash, snags, vegetation that may grow into overhead electrical lines, other ground fuels, ladder fuels and dead trees, and the thinning of live trees.
3. A plan for maintaining the proposed fuel-reduction measures.

B101.3 Fuel modification. To be considered a fuel modification for purposes of this code, continuous maintenance of the clearance is required.

APPENDIX C

FIRE HAZARD SEVERITY FORM

The provisions contained in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

When adopted, this appendix is to be used in place of Table 502.1 to determine the fire hazard severity.

A. Subdivision Design	**Points**
1. Ingress/Egress	
Two or more primary roads	1___
One road	3___
One-way road in, one-way road out	5___
2. Width of Primary Road	
20 feet or more	1___
Less than 20 feet	3___
3. Accessibility	
Road grade 5% or less	1___
Road grade more than 5%	3___
4. Secondary Road Terminus	
Loop roads, cul-de-sacs with an outside turning radius of 45 feet or greater	1___
Cul-de-sac turnaround	
Dead-end roads 200 feet or less in length	3___
Dead-end roads greater than 200 feet in length	5___
5. Street Signs	
Present	1___
Not present	3___

B. Vegetation (IWUIC Definitions)	
1. Fuel Types	
Light	1___
Medium	5___
Heavy	10___
2. Defensible Space	
70% or more of site	1___
30% or more, but less than 70% of site	10___
Less than 30% of site	20___

C. Topography	
8% or less	1___
More than 8%, but less than 20%	4___
20% or more, but less than 30%	7___
30% or more	10___

D. Roofing Material	
Class A Fire Rated	1___
Class B Fire Rated	5___
Class C Fire Rated	10___
Nonrated	20___

E. Fire Protection—Water Source	
500 GPM hydrant within 1,000 feet	1___
Hydrant farther than 1,000 feet or draft site	2___
Water source 20 min. or less, round trip	5___
Water source farther than 20 min., and 45 min. or less, round trip	7___
Water source farther than 45 min., round trip	10___

F. Existing Building Construction Materials	
Noncombustible siding/deck	1___
Noncombustible siding/combustible deck	5___
Combustible siding and deck	10___

G . Utilities (gas and/or electric)	
All underground utilities	1___
One underground, one aboveground	3___
All aboveground	5___

Total for Subdivision	
Moderate Hazard	40–59
High Hazard	60–74
Extreme Hazard	75+

APPENDIX D

FIRE DANGER RATING SYSTEM

This appendix is an excerpt from the National Fire Danger Rating (NFDR) System, 1978, United States Department of Agriculture Forest Service, general technical report INT-39, and is for information purposes and is not intended for adoption.

The fuel models that follow are only general descriptions because they represent all wildfire fuels from Florida to Alaska and from the East Coast to California.

FUEL MODEL KEY

I. Mosses, lichens and low shrubs predominate ground fuels.
   A. An overstory of conifers occupies more than one-third of the site: MODEL Q
   B. There is no overstory, or it occupies less than one-third of the site (tundra): MODEL S

II. Marsh grasses and/or reeds predominate: MODEL N

III. Grasses and/or forbs predominate.
   A. There is an open overstory of conifer and/or hardwood trees: MODEL C
   B. There is no overstory.
      1. Woody shrubs occupy more than one-third, but less than two-thirds of the site: MODEL T
      2. Woody shrubs occupy less than one-third of the site.
         a. The grasses and forbs are primarily annuals: MODEL A
         b. The grasses and forbs are primarily perennials: MODEL L

IV. Brush, shrubs, tree reproduction or dwarf tree species predominate.
   A. Average height of woody plants is 6 feet or greater.
      1. Woody plants occupy two-thirds or more of the site.
         a. One-fourth or more of the woody foliage is dead.
            (1) Mixed California chaparral: MODEL B
            (2) Other types of brush: MODEL F
         b. Up to one-fourth of the woody foliage is dead: MODEL Q
         c. Little dead foliage: MODEL O
      2. Woody plants occupy less than two-thirds of the site: MODEL F
   B. Average height of woody plants is less than 6 feet.
      1. Woody plants occupy two-thirds or more of the site.
         a. Western United States: MODEL F
         b. Eastern United States: MODEL O
      2. Woody plants occupy less than two-thirds but more than one-third of the site.
         a. Western United States: MODEL T
         b. Eastern United States: MODEL D
      3. Woody plants occupy less than one-third of the site.
         a. The grasses and forbs are primarily annuals: MODEL A
         b. The grasses and forbs are primarily perennials: MODEL L

V. Trees predominate.
   A. Deciduous broadleaf species predominate.
      1. The area has been thinned or partially cut, leaving slash as the major fuel component: MODEL K
      2. The area has not been thinned or partially cut.
         a. The overstory is dormant; the leaves have fallen: MODEL E
         b. The overstory is in full leaf: MODEL R
   B. Conifer species predominate.
      1. Lichens, mosses, and low shrubs dominate as understory fuels: MODEL Q
      2. Grasses and forbs are the primary ground fuels: MODEL C
      3. Woody shrubs and/or reproduction dominate as understory fuels.
         a. The understory burns readily.
            (1) Western United States: MODEL T
            (2) Eastern United States:
               (a) The understory is more than 6 feet tall: MODEL O
               (b) The understory is less than 6 feet tall: MODEL D
         b. The understory seldom burns: MODEL H
      4. Duff and litter, branchwood, and tree boles are the primary ground fuels.
         a. The overstory is overmature and decadent; there is a heavy accumulation of dead tree debris: MODEL G
         b. The overstory is not decadent; there is only a nominal accumulation of debris.
            (1) The needles are 2 inches (51 mm) or more in length (most pines).
               (a) Eastern United States: MODEL P

(b) Western United States:
MODEL U

(2) The needles are less than 2 inches (51 mm) long: MODEL H

VI. Slash is the predominant fuel.

A. The foliage is still attached; there has been little settling.

1. The loading is 25 tons/acre (56.1 tons/ha) or greater: MODEL I
2. The loading is less than 25 tons/acre (56.1 tons/ha) but more than 15 tons/acre (33.7 tons/ha): MODEL J
3. The loading is less than 15 tons/acre (33.7 tons/ha): MODEL K

B. Settling is evident; the foliage is falling off; grasses, forbs, and shrubs are invading the area.

1. The loading is 25 tons/acre (56.1 tons/ha) or greater: MODEL J
2. The loading is less than 25 tons/acre (56.1 tons/ha): MODEL K

FUEL MODEL A

This fuel model represents western grasslands vegetated by annual grasses and forbs. Brush or trees may be present but are very sparse, occupying less than a third of the area. Examples of types where Fuel Model A should be used are cheatgrass and medusahead. Open pinyon-juniper, sagebrush-grass, and desert shrub associations may appropriately be assigned this fuel model if the woody plants meet the density criteria. The quantity and continuity of the ground fuels vary greatly with rainfall from year to year.

FUEL MODEL B

Mature, dense fields of brush 6 feet (1829 mm) or more in height are represented by this fuel model. One-fourth or more of the aerial fuel in such stands is dead. Foliage burns readily. Model B fuels are potentially very dangerous, fostering intense, fast-spreading fires. This model is for California mixed chaparral generally 30 years or older. The F model is more appropriate for pure chamise stands. The B model may also be used for the New Jersey pine barrens.

FUEL MODEL C

Open pine stands typify Model C fuels. Perennial grasses and forbs are the primary ground fuel but there is enough needle litter and branchwood present to contribute significantly to the fuel loading. Some brush and shrubs may be present but they are of little consequence. Situations covered by Fuel Model C are open, longleaf, slash, ponderosa, Jeffrey, and sugar pine stands. Some pinyon-juniper stands may qualify.

FUEL MODEL D

This fuel model is specifically for the palmetto-gallberry understory-pine overstory association of the southeast coastal plains. It can also be used for the so-called "low pocosins" where Fuel Model O might be too severe. This model should only be used in the Southeast, because of a high moisture of extinction.

FUEL MODEL E

Use this model after leaf fall for hardwood and mixed hardwood-conifer types where the hardwoods dominate. The fuel is primarily hardwood leaf litter. The oat-hickory types are best represented by Fuel Model E, but E is an acceptable choice for northern hardwoods and mixed forests of the Southeast. In high winds, the fire danger may be underrated because rolling and blowing leaves are not accounted for. In the summer after the trees have leafed out, Fuel Model E should be replaced by Fuel Model R.

FUEL MODEL F

Fuel Model F is the only one of the 1972 NFDR System Fuel Models whose application has changed. Model F now represents mature closed chamise stands and oakbrush fields of Arizona, Utah and Colorado. It also applies to young, closed stands and mature, open stands of California mixed chaparral. Open stands of pinyon-juniper are represented; however, fire activity will be overrated at low wind speeds and where there is sparse ground fuels.

FUEL MODEL G

Fuel Model G is used for dense conifer stands where there is a heavy accumulation of litter and downed woody material. Such stands are typically overmature and may also be suffering insect, disease, wind or ice damage—natural events that create a very heavy buildup of dead material on the forest floor. The duff and litter are deep, and much of the woody material is more than 3 inches (76 mm) in diameter. The undergrowth is variable, but shrubs are usually restricted to openings. Types meant to be represented by Fuel Model G are hemlock-Sitka spruce, Coast Douglas-fir, and wind-thrown or bug-killed stands of lodgepole pine and spruce.

FUEL MODEL H

The short-needled conifers (white pines, spruces, larches and firs) are represented by Fuel Model H. In contrast to Model G fuels, Fuel Model H describes a healthy stand with sparse undergrowth and a thin layer of ground fuels. Fires in H fuels are typically slow spreading and are dangerous only in scattered areas where the downed woody material is concentrated.

FUEL MODEL I

Fuel Model I was designed for clearcut conifer slash where the total loading of materials less than 6 inches (152 mm) in diameter exceeds 25 tons/acre (56.1 metric tons/ha). After settling and the fines (needles and twigs) fall from the branches, Fuel Model I will overrate the fire potential. For lighter loadings of clearcut conifer slash, use Fuel Model J, and for light thinnings and partial cuts where the slash is scattered under a residual overstory, use Fuel Model K.

FUEL MODEL J

This model is complementary to Fuel Model I. It is for clearcuts and heavily thinned conifer stands where the total loading of materials less than 6 inches (152 mm) in diameter is less than 25 tons/acre (56.1 metric tons/ha). Again, as the slash ages, the fire potential will be overrated.

FUEL MODEL K

Slash fuels from light thinnings and partial cuts in conifer stands are represented by Fuel Model K. Typically, the slash is scattered about under an open overstory. This model applies to hardwood slash and to southern pine clearcuts where the loading of all fuels is less than 15 tons/acre (33.7 tons/ha).

FUEL MODEL L

This fuel model is meant to represent western grasslands vegetated by perennial grasses. The principal species are coarser and the loadings heavier than those in Model A fuels. Otherwise, the situations are very similar; shrubs and trees occupy less than one-third of the area. The quantity of fuel in these areas is more stable from year to year. In sagebrush areas, Fuel Model T may be more appropriate.

FUEL MODEL N

This fuel model was constructed specifically for the sawgrass prairies of south Florida. It may be useful in other marsh situations where the fuel is coarse and reedlike. This model assumes that one-third of the aerial portion of the plants is dead. Fast-spreading, intense fires can occur even over standing water.

FUEL MODEL O

The O fuel model applies to dense, brushlike fuels of the Southeast. O fuels, except for a deep litter layer, are almost entirely living, in contrast to B fuels. The foliage burns readily, except during the active growing season. The plants are typically over 6 feet (1829 mm) tall and are often found under an open stand of pine. The high pocosins of the Virginia, North and South Carolina coasts are the ideal of Fuel Model O. If the plants do not meet the 6-foot (1829 mm) criterion in those areas, Fuel Model D should be used.

FUEL MODEL P

Closed, thrifty stands of long-needled southern pines are characteristic of P fuels. A 2- to 4-inch (51 to 102 mm) layer of lightly compacted needle litter is the primary fuel. Some small-diameter branchwood is present, but the density of the canopy precludes more than a scattering of shrubs and grass. Fuel Model P has the high moisture of extinction characteristic of the Southeast. The corresponding model for other long-needled pines is U.

FUEL MODEL Q

Upland Alaskan black spruce is represented by Fuel Model Q. The stands are dense but have frequent openings filled with usually flammable shrub species. The forest floor is a deep layer of moss and lichens, but there is some needle litter and small-diameter branchwood. The branches are persistent on the trees, and ground fires easily reach into the tree crowns. This fuel model may be useful for jack pine stands in the Lake States. Ground fires are typically slow spreading, but a dangerous crowning potential exists.

FUEL MODEL R

This fuel model represents the hardwood areas after the canopies leaf out in the spring. It is provided as the off–season substitute for E. It should be used during the summer in all hardwood and mixed conifer-hardwood stands where more than half of the overstory is deciduous.

FUEL MODEL S

Alaskan or alpine tundra on relatively well-drained sites is the S fuel. Grass and low shrubs are often present, but the principal fuel is a deep layer of lichens and moss. Fires in these fuels are not fast spreading or intense, but are difficult to extinguish.

FUEL MODEL T

The bothersome sagebrush-grass types of the Great Basin and the Intermountain West are characteristic of T fuels. The shrubs burn easily and are not dense enough to shade out grass and other herbaceous plants. The shrubs must occupy at least one-third of the site or the A or L fuel models should be used. Fuel Model T might be used for immature scrub oak and desert shrub associations in the West, and the scrub oak-wire grass type in the Southeast.

FUEL MODEL U

Closed stands of western long-needled pines are covered by this model. The ground fuels are primarily litter and small branchwood. Grass and shrubs are precluded by the dense canopy but occur in the occasional natural opening. Fuel Model U should be used for ponderosa, Jeffrey, sugar pine, and red pine stands of the Lake States. Fuel Model P is the corresponding model for southern pine plantations.

APPENDIX E
FINDINGS OF FACT

This appendix is for information purposes and is not intended for adoption.

Originally, most fire and building codes were written and adopted at the local government level. As a result, there were many differences in code provisions from community to community. Local problems often resulted in unique code provisions that were appropriate to the local situation, but not of much use in other communities.

With the development of uniform and model codes and their subsequent adoption by state governments, the common features were applied everywhere. Once the basic provisions were codified into a format and structure that had appeal to both code officials and the builder-development community, their code became "minimum standards." The model codes were just that—a document that set the minimum criteria that most communities could find acceptable, but not intended to solve every problem everywhere. The developers of model codes left one option to be used: those exceptional situations that require local modifications based on a specific problem could use a specific process to increase the level of a particular requirement.

The solution that was commonly made available in the model adoption process was the development of written "findings of fact" that justified modifications by local code officials. Many state codes identify a specific adoption process. This provision requires that a certain amount of research and analysis be conducted to support a written finding that is both credible and professional. In the context of adopting a supplemental document such as the wildland-urban interface provision, the writing of these findings is essential in creating the maps and overlap needed to use their specific options.

The purpose of this appendix is to provide an overview of how local code officials could approach this process. There are three essential phenomena cited in some model adoption statutes that vary from community to community: climate, topography and geography. Although it can be agreed that there are other findings that could draw distinction in local effects, these three features are also consistent with standard code text that offers opportunity to be more restrictive than local codes.

One point that needs to be reinforced is that the process demands a high level of professionalism to protect the code official's credibility in adopting more restrictive requirements. A superficial effort in preparing the findings of fact could jeopardize the proposed or adopted code restriction. A code official should devote a sufficient amount of time to draft the findings of fact to ensure that the facts are accurate, comprehensive and verifiable.

DEFINITIONS

CLIMATE. The average course or condition of the weather at a particular place over a period of many years, as exhibited in absolute extremes, means and frequencies of given departures from these means (i.e., of temperature, wind velocity, precipitation and other weather elements).

INSURANCE SERVICES OFFICE (ISO). An agency that recommends fire insurance rates based on a grading schedule that incorporates evaluation of fire fighting resources and capabilities.

TOPOGRAPHY. The configuration of landmass surface, including its relief (elevation) and the position of its natural and man-made features that affect the ability to cross or transit a terrain.

GEOGRAPHY. "A science that deals with the earth and its life, especially the description of land, sea, air, and the distribution of plant and animal life including man and his industries with reference to the mutual relations of these diverse elements." *Webster's Third New International Dictionary of the English Language, Unabridged.*

CLIMATIC CONSIDERATIONS

There are two types of climates: macro and micro. A macro climate affects an entire region and gives the area a general environmental context. A micro climate is a specific variation that could be related to the other two factors, topography and geography. A micro climate may cover a relatively small area or be able to encompass an entire community, as opposed to another community in the same county.

Climatic consideration should be given to the extremes, means and anomalies of the following weather elements:

1. Temperatures.
2. Relative humidities.
3. Precipitation and flooding conditions.
4. Wind speed and duration of periods of high velocity.
5. Wind direction.
6. Fog and other atmospheric conditions.

What is essential in creating an wildland-urban overlay are the data that suggest the existence of critical fire weather in the jurisdiction.

TOPOGRAPHIC CONSIDERATIONS

Topographic considerations should be given to the presence of the following topographical elements:

1. Elevation and ranges of elevation.
2. Location of ridges, drainages and escarpments.
3. Percent of grade (slope).

4. Location of roads, bridges and railroads.
5. Other topographical features, such as aspect exposure.

This information becomes an important part of creating an analysis of wildland-urban areas because topography and slope are key elements (along with fuel type) that create the need for specific ignition-resistance requirements in this code.

GEOGRAPHIC CONSIDERATIONS

Geography should be evaluated to determine the relationship between man-made improvements (creating an exposure) and factors such as the following:

1. Fuel types, concentration in a mosaic and distribution of fuel types.
2. Earthquake fault zones.
3. Hazardous material routes.
4. Artificial boundaries created by jurisdictional boundaries.
5. Vulnerability of infrastructure to damage by climate and topographical concerns.

Fuel types are the final component of the findings that suggest the need for identifying wildland-urban areas in a jurisdiction. Review Appendix D for a brief description of the various fuel models that relate to the specific areas under evaluation.

REPORTING THE FINDINGS

After a person has researched a specific jurisdictional area, the facts should be incorporated into a written document that reflects how these facts relate to the code official's specific needs. The following is an exhibit that incorporates one such report. It should be reviewed as an example of how a relationship can be drawn between specific facts, fire-protection problems and specific code modifications. It should be noted that this is an example only.

EXHIBIT 1
Findings

The **[ADMINISTRATOR]** does herewith make findings that certain climatic, topographic or geological features exist in the **[JURISDICTION]**, and that those features can, under certain circumstances, affect emergency services. Further, certain code amendments are made to the ***[INTERNATIONAL FIRE CODE]*** and ***[INTERNATIONAL BUILDING CODE]*** that are aimed at mitigating, to the extent possible, the impact of those features.

Finding 1

That the **[JURISDICTION]** is situated on the slopes of and at the base of the _____Mountains, with drainages from the **[DIRECTION]** portion of the district, including **[IDENTIFY LOCAL CREEKS/STREAMS/RIVERS]**, which, when flooded, could result in conditions rendering fire department vehicular traffic access unduly burdensome or impossible.

Further, the flood conditions described above carry the potential for overcoming the ability of the fire department to aid or assist in fire control, evacuations, rescues and the emergency task demands inherent in such situations. The potential for the aforementioned flooding conditions to result in limiting fire department emergency vehicular traffic, with resulting overtaxing fire department personnel, may further cause a substantial or total lack of protection against fire for the buildings and structures located within the jurisdiction.

The aforementioned conditions support the imposition of fire-protection requirements greater than those set forth in the ***[INTERNATIONAL BUILDING CODE* OR *INTERNATIONAL FIRE CODE]***.

Finding 2

That the **[JURISDICTION]** is situated near **[NUMBER OF FAULTS]** major faults, each capable of generating earthquakes of significant magnitude. These are the **[NAME OF FAULTS]**. These faults are subject to becoming active at any time; the **[JURISDICTION]** is particularly vulnerable to devastation should such an earthquake occur.

The potential effects of earthquake activity include isolating the **[JURISDICTION]** from the surrounding area and restricting or eliminating internal circulation due to the potential for collapsing of highway overpasses and underpasses, along with other bridges in the district, or an earth slide, and the potential for vertical movement rendering surface travel unduly burdensome or impossible.

Additional potential situations inherent in such an occurrence include loss of the **[JURISDICTION]** water sources; **[IDENTIFY LOCAL SOURCES]** would be expected to suffer damage, along with the local reservoirs and water mains; broken natural gas mains causing structure and other fires; leakage of hazardous materials; the need for rescues from collapsed structures; and the rendering of first aid and other medical attention to large numbers of people.

The protection of human life and the preservation of property in the event of such an occurrence support the imposition of fire-protection requirements greater than those set forth in the ***[INTERNATIONAL BUILDING CODE* OR *INTERNATIONAL FIRE CODE]***.

Finding 3

That the **[JURISDICTION]** is **[IDENTIFY MAJOR TRANSPORTATION ROUTES]**. **[IDENTIFY ROUTE]** is designated by the **[JURISDICTION]** as an approved transportation route for highly toxic and radioactive materials.

The potential for release or threatened release of a hazardous material along one of these routes is highly probable given the volume transported daily. Incidents of this nature will normally require all available emergency response personnel to prevent injury and loss of life and to prevent, as far as practicable, property loss. Emergency personnel responding to such aforementioned incidents may be unduly impeded and delayed in accomplishing an emergency response as a result of this situation, with the potential result of undue and unnecessary risk to the protection of life and public safety and, in particular, endangering residents and occupants in buildings or structures without the protection of automatic sprinklers.

The aforementioned problems support the imposition of fire-protection requirements greater than those set forth in the ***[INTERNATIONAL BUILDING CODE OR INTERNATIONAL FIRE CODE]***.

Finding 4

The seasonal climatic conditions during the late summer and fall create numerous serious difficulties regarding the control of and protection against fires in the **[JURISDICTION]**. The hot, dry weather typical of this area in summer and fall, coupled with **[IDENTIFY ADDITIONAL CLIMATIC CONDITIONS]** frequently results in wildfires that threaten or could threaten the **[JURISDICTION]**.

Although some code requirements, such as fire-resistive roof classification, have a direct bearing on building survival in a wildland fire situation, others, such as residential automatic sprinklers, may also have a positive effect. In dry climate on low humidity days, many materials are much more easily ignited. More fires are likely to occur and any fire, once started, can expand extremely rapidly. Residential automatic sprinklers can arrest a fire starting within a structure before the fire is able to spread to adjacent brush and structures.

Seasonal winds also have the potential for interfering with emergency vehicle access, delaying or making impossible fire responses, because of toppling of extensive plantings of **[TYPE OF TREES]** trees. The trees are subject to uprooting in strong winds due to relatively small root bases compared to the tree itself.

The aforementioned problems support the imposition of fire-protection requirements greater than those set forth in the ***[INTERNATIONAL BUILDING CODE OR INTERNATIONAL FIRE CODE]***.

Finding 5

The **[JURISDICTION]** is a **[DESCRIBE TYPE OF REGION]** and experiences water shortages from time to time. Those shortages can have a severely adverse effect on water availability for firefighting.

Fires starting in sprinklered buildings are typically controlled by one or two sprinkler heads, flowing as little as 13 gallons per minute (0.82 L/s) each.

Hose streams used by engine companies on well-established structure fires operate at about 250 gallons per minute (15.8 L/s) each, and the estimated water need for a typical residential fire is 1,250 to 1,500 gallons per minute (78.9 to 94.6 L/s), according to the Insurance Services Office.

Under circumstances such as earthquakes, when multiple fires start within the community, the limited water demands of residential automatic sprinklers would control and extinguish many fires before they spread from building to building. In such a disaster, water demands needed for conflagration firefighting probably would not be available.

The aforementioned problems support the imposition of fire-protection requirements greater than those set forth in the ***[INTERNATIONAL BUILDING CODE OR INTERNATIONAL FIRE CODE]***.

Finding 6

The topography of the **[JURISDICTION]** presents problems in delivery of emergency services, including fire protection. Hilly terrain has narrow, winding roads with little circulation, preventing rapid access and orderly evacuation. Much of these hills are covered with highly nonfire-resistive natural vegetation. In addition to access and evacuation problems, the terrain makes delivery of water extremely difficult. Some hill areas are served by water pump systems subject to failure in fire, high winds, earthquake and other power failure situations.

The aforementioned problems support the imposition of fire protection requirements greater than those set forth in the ***[INTERNATIONAL BUILDING CODE OR INTERNATIONAL FIRE CODE]***.

SUMMARY

Efforts to produce comprehensive findings of fact cannot be underestimated. It is an essential step for fire-protection professionals to take before risking the proposal to modify a model code with a requirement that is unique to that community. Done properly, a findings-of-fact document will not only support the adoption of a local modification, it may make it virtually impossible to ignore the need without creating a community consequence.

APPENDIX F

CHARACTERISTICS OF FIRE-RESISTIVE VEGETATION

This appendix is for information purposes and is not intended for adoption.

All plants will burn under extreme fire weather conditions such as drought. However, plants burn at different intensities and rates of consumption. Fire-resistive plants burn at a relatively low intensity, slow rates of spread and with short flame lengths. The following are characteristics of fire-resistive vegetation:

1. Growth with little or no accumulation of dead vegetation (either on the ground or standing upright).
2. Nonresinous plants (willow, poplar or tulip trees).
3. Low volume of total vegetation (for example, a grass area as opposed to a forest or shrub-covered land).
4. Plants with high live fuel moisture (plants that contain a large amount of water in comparison to their dry weight).
5. Drought tolerant plants (deeply rooted plants with thick, heavy leaves).
6. Stands without ladder fuels (plants without small, fine branches and limbs between the ground and the canopy of overtopping shrubs and trees).
7. Plants requiring little maintenance (slow-growing plants that, when maintained, require little care).
8. Plants with woody stems and branches that require prolonged heating to ignite.

APPENDIX G
SELF-DEFENSE MECHANISM

This appendix is for information purposes and is not intended for adoption.

IDENTIFICATION OF THE PROBLEM

The *International Wildland-Urban Interface Code* establishes a set of minimum standards to reduce the loss of property from wildfire. The purpose of these standards is to prevent wildfire spreading from vegetation to a building. Frequently, proposals are made by property or landowners of buildings located in the wildland-urban interface to consider other options and alternatives instead of meeting these minimum standards. This appendix chapter provides discussion of some elements of the proposed self-defense mechanisms and their role in enhancing the protection of exposed structures.

STRUCTURAL SURVIVABILITY

Various stages of assault occur as a building is exposed to an wildland-urban fire. Ashes are cast in front of a fire out of a smoke or convection column, which can result in secondary ignitions. Heavier embers that have more body weight and may contain more heat to serve as sources of ignition follow. Finally, the actual intrusion of a flame front and the radiant heat flux can expose combustibles outside of a building and the exterior structure of a building to various levels of radiant heat. A study revealed that the actual exposure of a building to the flame front by the perimeter of the fire was usually less than six minutes. However, the exposure to the forms of other materials that can result in proliferation of other ignitions can vary, depending on wind, topography and fuel conditions.

To enhance structural survivability, the self-defense mechanisms must, first, do everything possible to prevent the ignition of materials from objects that are cast in front of the fire and, second, they must withstand the assault of the fire on the structure to prevent flames from penetrating into the building and resulting in an interior fire. There are considerable problems in achieving both of these objectives using some of the proposed alternative forms of protection such as the lack of definitive standards for self-defense mechanisms on the exterior of buildings. Although fire service has done considerable research into the evaluation of technology, such as smoke detectors, fire alarms, and interior sprinkler systems, very limited amount of study has been done on exterior sprinkler systems.

All forms of fire protection are classified as either active or passive. Active fire protection is taking specific action to control the fire in some manner. Passive fire protection uses resistance to ignition or provides some form of warning that allows other action to be taken. These two classifications of self-defense mechanisms create different problems with regard to being accepted as alternatives for building construction. Furthermore, certain self-defense mechanisms must be built in during new construction, and others may only be capable of being added as a retrofit to existing structures. As a matter of public policy, most code officials are reluctant to accept passive fire protection as an equivalent to a construction requirement, but are also reluctant to accept active fire protection systems that require intervention by suppression personnel.

The unequal distribution of self-defense mechanisms within a specific neighborhood poses another problem. If an individual is granted a waiver or exemption on the basis of putting in a nonmandated self-defense mechanism, and the neighbors to either side choose not to do so, or are not given the same options, there is a potential operational problem.

ALTERNATIVE CONCEPTS

This appendix chapter provides consideration of the following alternatives: (1) exterior sprinkler systems, (2) alternative water supply systems for exposure protection, (3) Class A foam systems, (4) enhanced exterior fire protection, (5) sheltering in place, and (6) building location.

Exterior sprinkler systems. Currently, there is no nationally accepted standard for the design and installation of exterior fire sprinkler systems. Interior sprinkler systems are regulated by nationally recognized standards that have specific requirements. However, exterior sprinkler systems lack such uniformity. What is generally proposed is a type of sprinkler system, placed on the roofs or eaves of a building, whose primary purpose is to wet down the roof. These types of systems can be activated either manually or automatically. However, the contemporary thought on exterior sprinkler systems is that if the roof classification is of sufficient fire resistance, exterior sprinklers are of little or no value.

Another option and alternative with exterior sprinklers is to use them to improve the relative humidity and fuel moisture in the defensible space. In this case, the exterior sprinkler is not used to protect the structure as much as it attempts to alter the fuel situation. However, studies do not support the idea that merely spraying water into the air in the immediate vicinity of a rapidly advancing wildland-urban fire does much good. Clearly, irrigation systems that keep plants healthy and fire-resistive plants that resist convection and radiated heat can accomplish the same purpose.

Alternative water supply systems for exposure protection. Pools and spas are often offered as an alternative water source for fire departments. These water sources must be accessible and reliable to be of any use by fire protection forces. Accessibility means that the fire department must be able to withdraw the water without having to go through extraordinary measures such as knocking down fences or having to set up drafting situations. Designs have been created to put liquid- or gas-fueled pumps or gravity valves on pools and spas to allow fire departments to access these water systems. A key vulnerability to the use of these alternative water systems is loss of electrical power. When the reliability of a water system

depends on external power sources, it cannot be relied upon by firefighters to be available in a worst-case scenario.

Class A foam systems. A new and emerging technology is the concept of Class A foam devices. These are devices that allow a homeowner to literally coat the exterior of their house with a thick layer of foam that prevents the penetration of embers and radiant heat to the structure. There is no nationally recognized standard for Class A foam technology; however, experiments in various wildland fire agencies seem to advocate foaming houses in advance of fire and flame fronts. To be accepted by the code official, the Class A foam system should pass rigorous scrutiny with regard to the manner and needs in which it is activated, the ways and means in which it is properly maintained, and a ways and means to test the system for its operational readiness during hiatus between emergencies.

Enhanced exterior fire protection. This alternative method would increase the degree of fire resistance on the exterior of a building. This is most often an alternative recommended as a retroactive application when individual properties cannot achieve adequate defensible space on the exterior of a building. Normally, fire resistance and building scenarios are concerned with containing a fire. Fire-resistance ratings within building design infers resistance to a fire for the specified time to compartmentalize the building's interior.

To improve fire resistance on the exterior of the structure, the primary emphasis is on preventing intrusion into the building. This means protection of apertures and openings that may or may not be required to have any degree of fire resistance by accepted building codes. The option that is available here is for individuals to provide coverage in the form of shutters or closures to these areas, which, along with maintenance of perimeter-free combustibles, can often prevent intrusion.

There are obvious limitations to this alternative. First and foremost is the means of adequately evaluating the proposed fire resistance of any given assembly. Testing techniques to determine fire resistance for such objects as drywall and other forms of construction may not be applicable to exterior application. Nonetheless, code officials should determine the utility of a specific fire resistance proposal by extrapolating conservatively.

Shelter in place. Developments in the wildland-urban interface may be designed to allow occupants to "Shelter in Place." Use of this design alternative should include ignition-resistant construction, access, water supply, automatic sprinkler systems, provisions for and maintenance of defensible space, and a Fire Protection Plan.

A Fire Protection Plan describes ways to minimize the fire problems created by a specific project or development. The purpose for the Fire Protection Plan is to reduce the burden and impact of the project or development on the community's fire protection delivery system. The plan may utilize components of land use, building construction, vegetation management and other design techniques and technologies. It should include specific mitigation measures consistent with the unique problems resulting from the location, topography, geology, flammable vegetation, and climate of the proposed site. The plan shall be consistent with this code, and approved by the fire code official. The cost of preparation and review are to be borne by the project or development proponent.

Building location. The location of a new building within property lines should be considered as it relates to topography and fire behavior. Buildings located in natural chimneys, such as narrow canyons and saddles, are especially fire prone because winds are funneled into these areas and eddies are created. Buildings located on narrow ridges without setbacks may be subjected to increased flame and convective heat exposure from a fire advancing from below. Stone or masonry walls can act as heat shields and deflect the flames. Swimming pools and rated or noncombustible decks and patios can be used to create a setback, decreasing the exposure to the structure. Attic and under floor vents, picture windows and sliding glass doors should not face possible corridors due to the increased risk of flame or ember penetration.

CONCLUSION

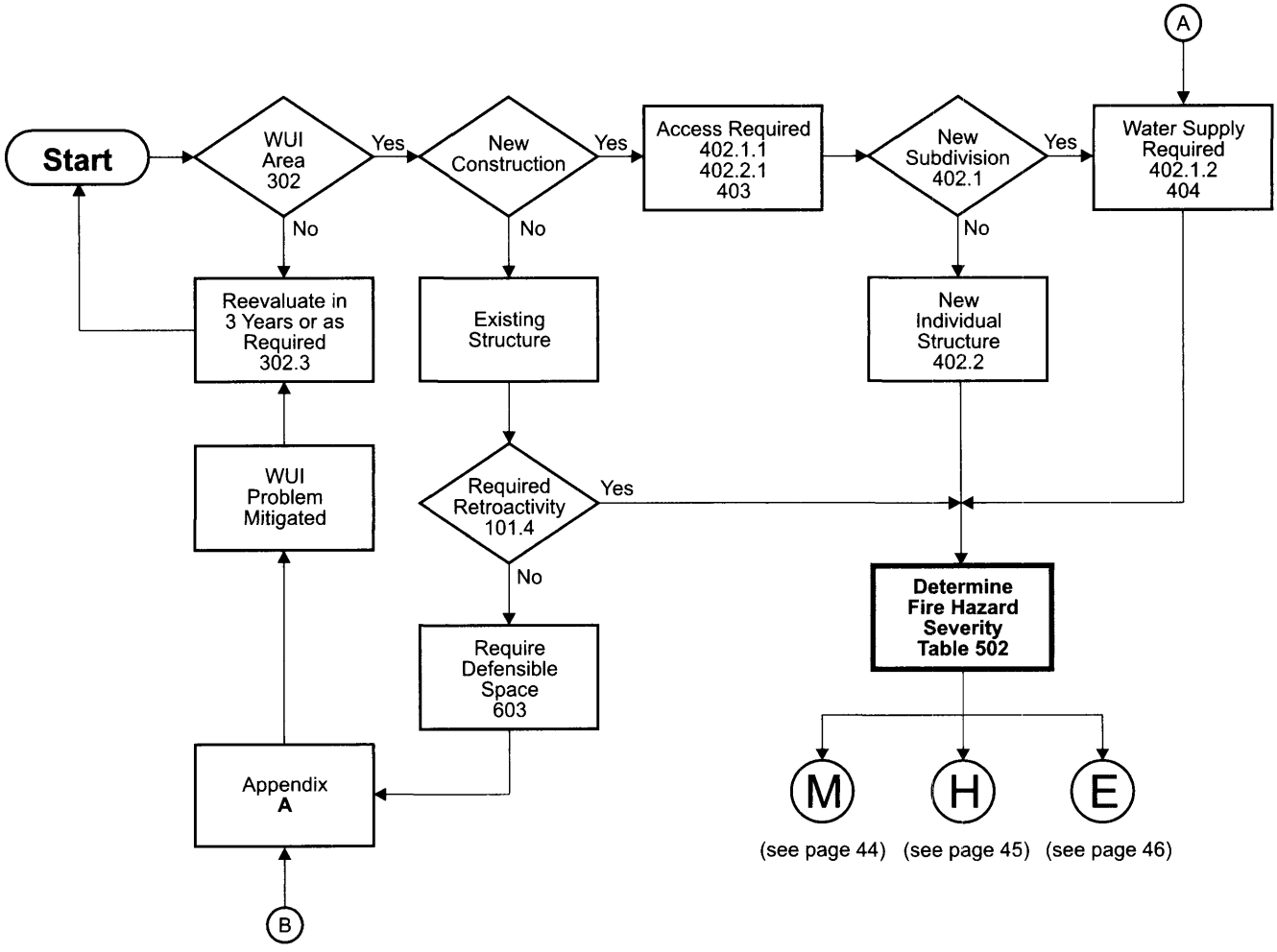
The purpose of the *International Wildland-Urban Interface Code* is to establish minimum standards that prevent the loss of structures, even if fire department intervention is absent. To accept alternative self-defense mechanisms, the code official must carefully examine whether these devices will be in place at the time of an event and whether or not they will assist or actually complicate the defense of the structure by fire suppression forces if they are available.

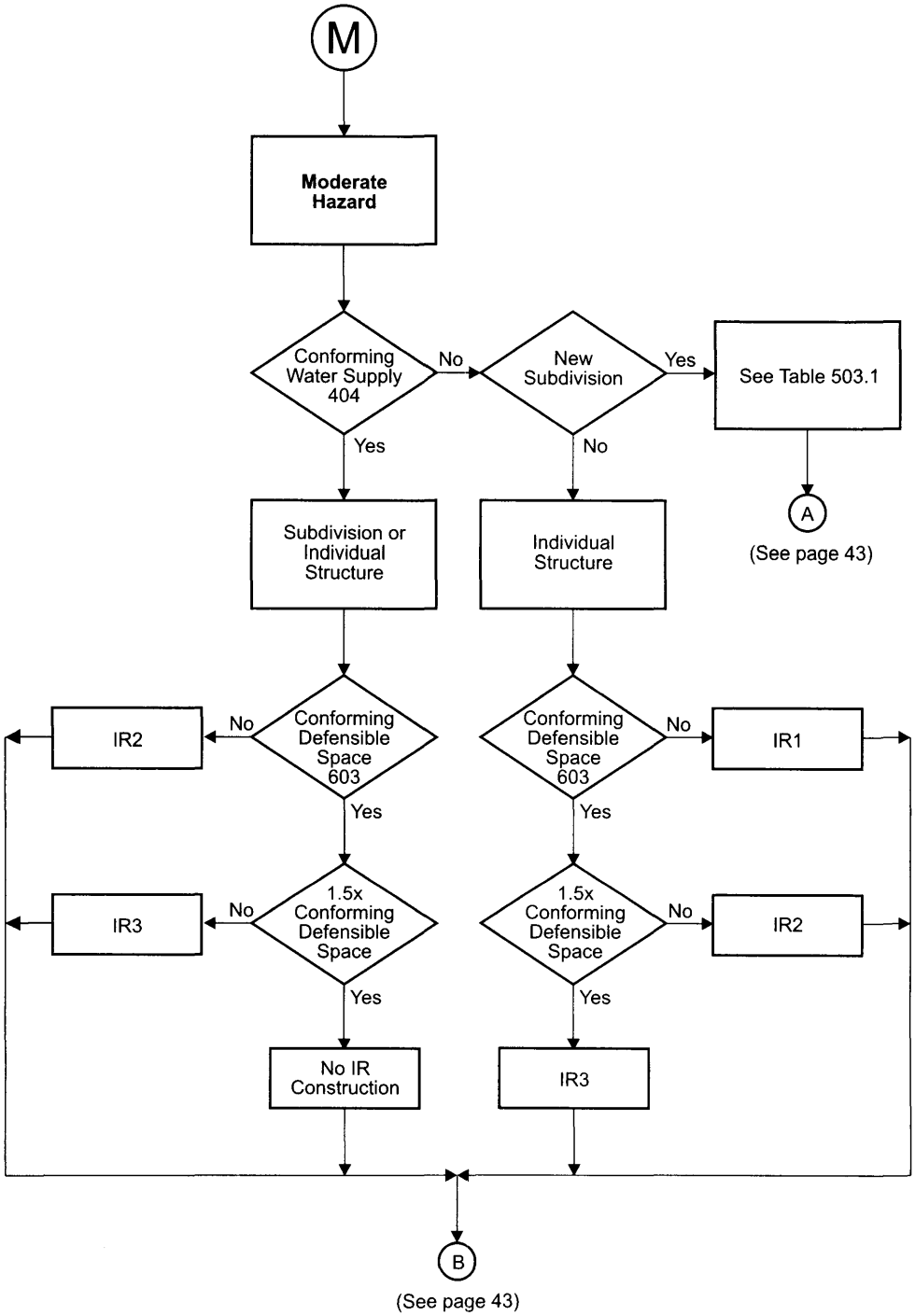
The best alternative to having a building comply with all of the provisions of this code is to remove sources of fuel. This is closely paralleled by excellent housekeeping between the vegetation and the structure. Alternative ways of achieving each of these goals can and should be considered after scrutiny by appropriately credentialed and qualified fire protection personnel.

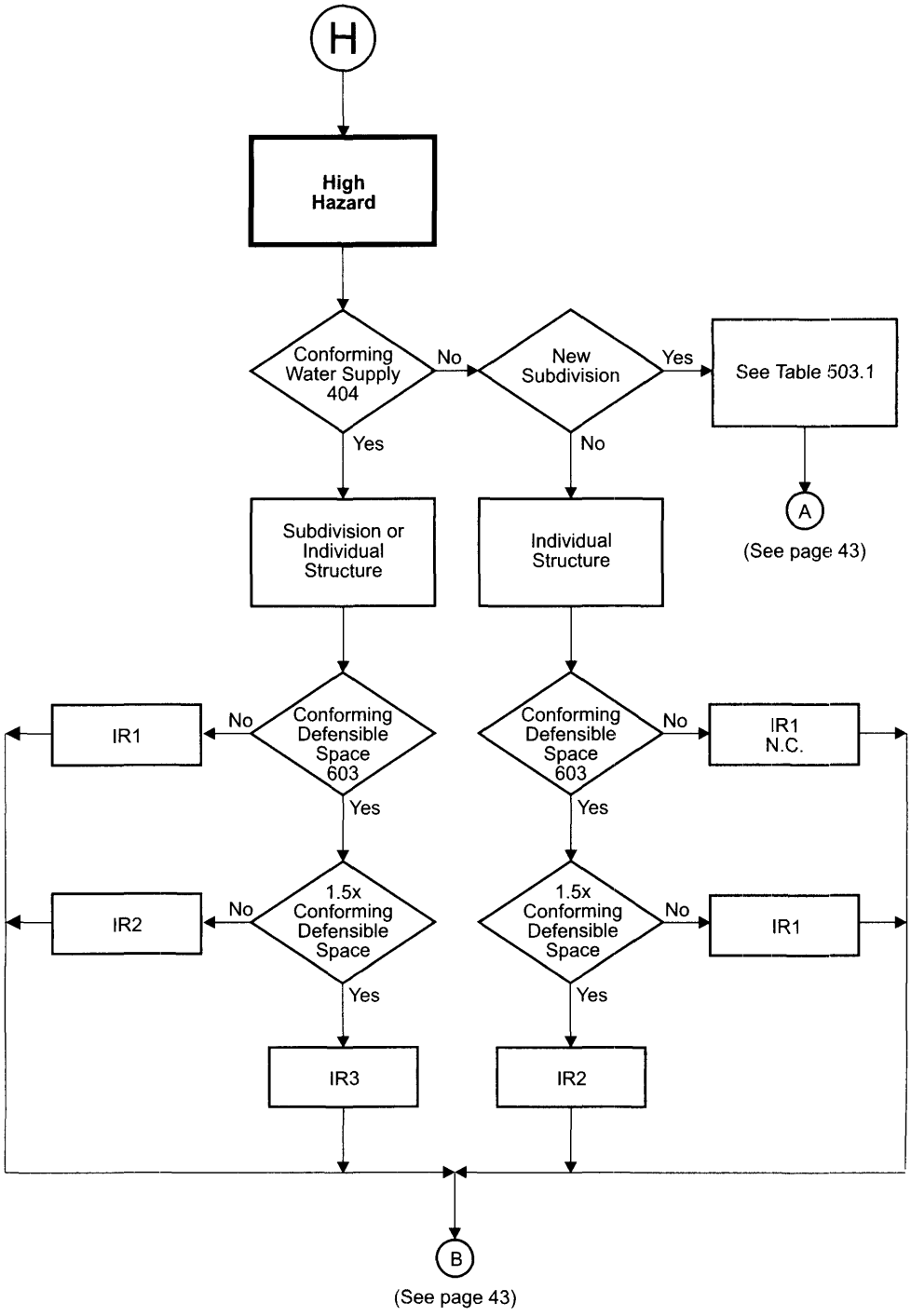
APPENDIX H

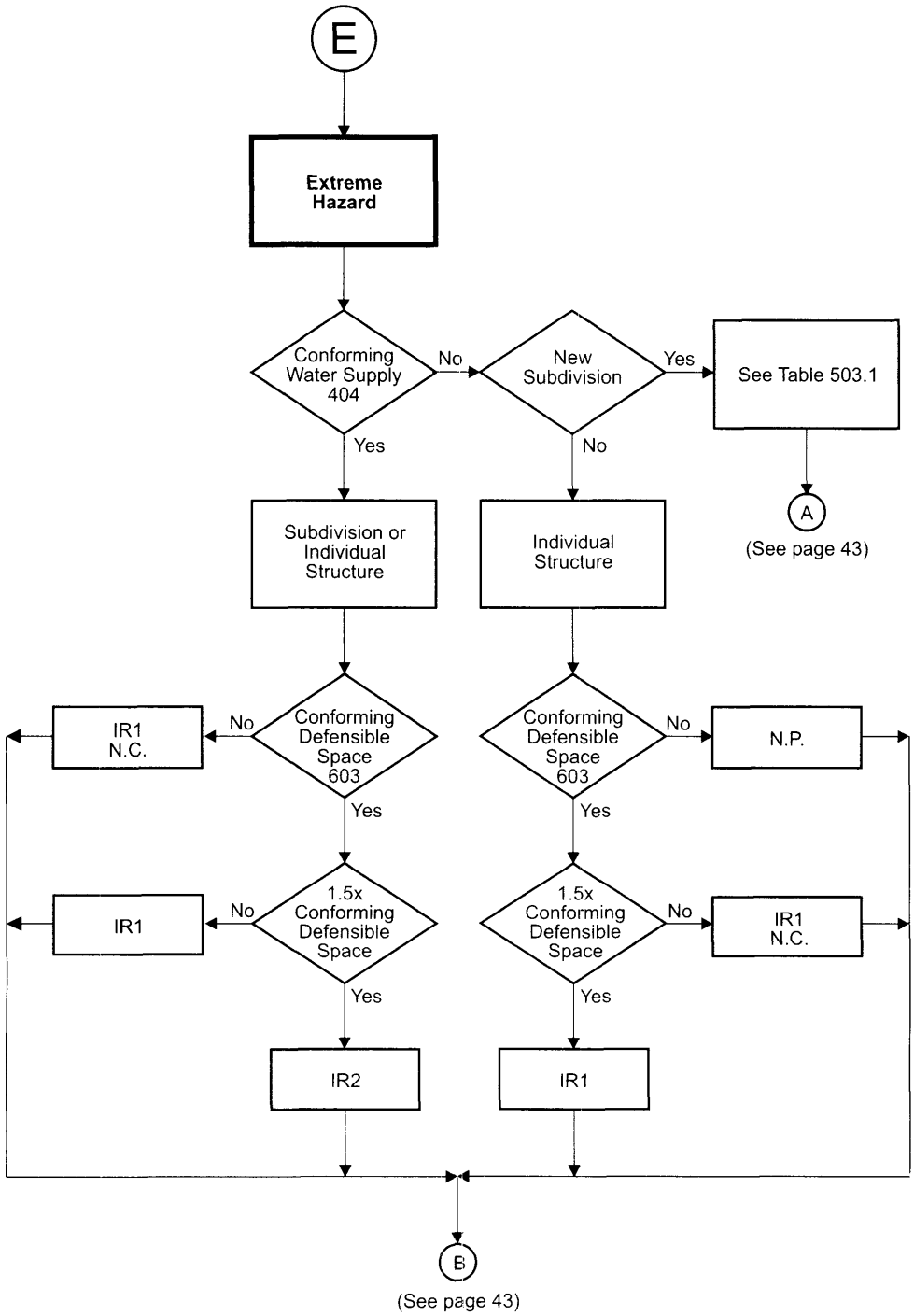
INTERNATIONAL WILDLAND-URBAN INTERFACE CODE FLOWCHART

This appendix is for information purposes and is not intended for adoption.




M
Moderate Hazard
Conforming Water Supply 404
No
New Subdivision
Yes
See Table 503.1
Yes
No
A
(See page 43)
Subdivision or Individual Structure
Individual Structure
IR2
No
Conforming Defensible Space 603
Conforming Defensible Space 603
No
IR1
Yes
Yes
IR3
No
1.5x Conforming Defensible Space
1.5x Conforming Defensible Space
No
IR2
Yes
Yes
No IR Construction
IR3
B
(See page 43)


H
High Hazard
Conforming Water Supply 404
No
New Subdivision
Yes
See Table 503.1
Yes
No
A
(See page 43)
Subdivision or Individual Structure
Individual Structure
IR1
No
Conforming Defensible Space 603
Conforming Defensible Space 603
No
IR1 N.C.
Yes
Yes
IR2
No
1.5x Conforming Defensible Space
1.5x Conforming Defensible Space
No
IR1
Yes
Yes
IR3
IR2
B
(See page 43)


E
Extreme Hazard
Conforming Water Supply 404
No
New Subdivision
Yes
See Table 503.1
Yes
No
A
(See page 43)
Subdivision or Individual Structure
Individual Structure
Conforming Defensible Space 603
No
IR1 N.C.
Conforming Defensible Space 603
No
N.P.
Yes
Yes
1.5x Conforming Defensible Space
No
IR1
1.5x Conforming Defensible Space
No
IR1 N.C.
Yes
Yes
IR2
IR1
B
(See page 43)

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